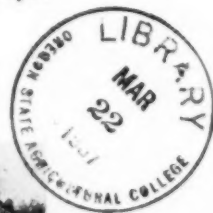


AMERICAN NURSEYMAN

The Nurseryman's Forte: To Make America More Beautiful and Fruitful

MARCH 15, 1937



Deutzia Lemoinei Compacta

Sorting Out the Cork Trees
Rooting Rhododendron Stock
New Peach Varieties
Native Plants of Garden Value

AMERICAN NURSERYMAN

Chief Exponent of the Nursery Trade

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EDITORIAL communications on subjects connected with nurseries, arboriculture or other phases of commercial horticulture are welcomed by the editor. Also articles on the subjects and papers prepared for conventions of nursery associations.

SELLING THE MEMBERS.

Only in our last issue was the statement made that nurserymen's associations did not have the means of selling the idea of membership, as the expression goes, to those outside the organization, as well as those already within. But there are recent developments in that direction. The live secretary of the Maryland association has put out a mimeographed monthly bulletin for several issues, and now the New Jersey association has issued a printed monthly organ, called *Horticultural Topics*, which is being sent to all the 600 certified nurserymen of the state. The object appears in the greetings from the president: "It is our hope that this monthly bulletin will serve to bring before all of you the activities of our association in such a way as to impress you with the fact that this association should be thoroughly representative of the state, and when it is so representative, its value becomes secondary only to every nurseryman's own business."

Not only the associations issuing such bulletins, but those in other states as well, should welcome these efforts to make all individuals engaged in the nursery industry conscious of the great value organizations have for them. The greater number of individuals interested and active in trade association work, the still larger will be the benefit.

At first sight, it would seem unnecessary to tell an individual what he needs to advance his own enterprise. He should be seeking for such means,

The Mirror of the Trade

whether it be the protection and aid an association can give him, the service of a cost system, or the information on plants and their culture that is requisite for real success. But in daily life the average individual has so much work immediately in front of him that the more distant prospects are sometimes not even noticed, and more often not fully realized when seen. Too often there is a resemblance to the farmer who chided his relative for attending an agricultural school, declaring that he himself did not yet "farm as well as he knew."

The outstanding successes in any kind of business are made by those men who are not only conducting their individual business enterprises as well as they know how, but are constantly seeking new avenues and ways. They are always learning.

As the number of such individuals in business increases, and operations become more complex, the necessity of reaching out for help, for learning all one can, increases year by year. The need is being met by greater organization activity and a larger output of printed information for nurserymen. It remains but for the individuals to take advantage if they will.

ADVERTISING FOLDERS.

The articles on merchandising nursery stock in recent issues of this magazine have brought comments from readers in regard to circulars or folders which might be used by individual nurserymen for advertising to their retail customers. There is no question that inexpensive leaflets, containing information and suggestions to gardeners and home owners, are among the most effective forms of advertising for their moderate cost. The difficulty is their preparation.

From time to time coöperative efforts in that direction have been discussed or initiated, specifically a circular for general use to be printed by nurserymen in different localities. When these have been available in the past, not many nurserymen used them. The larger firms preferred to get out their own, which they could do with more individual-

ity. Smaller firms apparently did not see the wisdom of spending money for this sort of thing every month in the year, or even regularly at greater intervals, which they would have to do in order that it might be effective.

With sales picking up again, there is evidence of renewed interest in advertising folders. Some specimens have been received by the editor, and others would be welcome. As a clearing house of ideas, these columns are open.

DEUTZIA LEMOINEI COMPACTA.

A profuse-flowering dwarf form of the well known Lemoine deutzia is illustrated on the front cover. The individual blooms of *D. Lemoinei* compacta are smaller than those of the taller form, but their abundance more than makes up for their lesser size. It is generally agreed that the Lemoine deutzia is one of the most dependable forms, hardier even than either of its parents—*D. gracilis* and *D. parviflora*—and compacta is similar to the type in this respect. It is considered hardy at Ottawa, Canada, whereas the slender deutzia, *gracilis*, is only half-hardy.

The flowers appear in denser clusters and are attached more compactly to the stems than are those of either *Lemoinei* or *gracilis*, as can be noted on the specimen illustrated. In height, compacta is more like *gracilis*, rarely exceeding three feet, whereas the Lemoine deutzia generally reaches four to six feet and occasionally seven.

Softwood cuttings taken in mid-summer root easily in an outdoor propagating frame. Rarely do any fail to root. The young plants had best be carried through the first winter in a coldframe. Hardwood cuttings taken in late fall or early winter can also be employed, handled in much the same way as are those of currants and similar items.

When stock of *Lemoinei* compacta becomes plentiful in this country, it will make an admirable small shrub for forcing in late winter and early spring. This outlet for nursery stock has been too long neglected and deserves to be built up.

AMERICAN NURSERYMAN

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The Chief Exponent of the American Nursery Trade

*The Nurseryman's Forte:
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No. 6

Sorting Out the Cork Trees

*Recognition of Distinctive Habits Will Relieve Confusion
In the Several Species of Phellodendrons—By Leon Croizat*

The cork trees, sturdy inhabitants of temperate and nearly temperate China, Siberia and Japan, have been with us a long time. They reached our shores first about 1856, and the species introduced latest, about 1907, the Chinese cork tree, *Phellodendron chinense*, has managed to secure for itself as wide a circulation as the earliest introduced kind, the Amoor cork tree, *P. amurense*.

In addition to the two species named, from China and from the Amoor river valley—that divides famous Manchukuo, or Manchuria, from Siberia—we have in cultivation three other kinds, *Lavallei*, *japonicum* and *sachalinense*. All five are noteworthy for their thriftiness, their freedom from insect pests and disease, their ability to withstand the occasionally severe winters of our east and middle west, and the facility with which they transplant. Reliable horticulturists are of the opinion that the cork trees can be moved as easily as the pin oak, which is a great deal to say. It is probable that the cork trees would be more extensively used in cultivation were it not that their somewhat stiff habit makes it difficult to blend them in satisfactory schemes of planting. They are also objectionable, to some extent, because at least every two years they bring forth great quantities of small, pulpy fruits having a strong odor not unlike turpentine. In the majority of the trees these fruits drop out gradually during the late fall and the early winter, but some specimens, particularly of *Lavallei* and *japonicum*, carry fruits that stay on almost until the beginning of May, when the buds begin to open.

At this time the whole crop drops and litters the ground quite thickly. This is a serious matter if the trees happen to stand by a walk; crushed under foot, the fruits form a slippery mess, which to many is unpleasingly scented and to all may prove dangerous. In this respect the offending specimens are scarcely less annoying than the female ginkgo.

The strong odor of the cork tree fruit, quite noticeable when any part of it is bruised, is the natural outcome of the genus' being allied with the wafer ash, the poncirus and the orange and lemon trees. The entire family, which takes its scientific name, *rutaceæ*, from the weedy rue of our forefathers, is rich of odors, not all of which are agreeable. To an eye unaccustomed to its looks, the cork tree may suggest, when not in fruit, the ailingthus or the walnut. Like those trees, it has pinnate leaves. From the ailingthus, however, the cork tree is easily to be known because it has thinner, dark brown branchlets, smaller leaf scars, buds covered with close brown hairs, and a wholly different smell. The leaflet of the ailingthus, furthermore, has two or more small glands, which are never found on that of the cork tree. The walnuts differ on account of their odor, much longer grayish or light brown buds, much larger leaf scars and rather sharply toothed leaflets. The bark of the cork tree in all cases is quite different from that of the ailingthus and of the walnut, and seen once, it can always be recognized at first sight. It is light brown, yellow underneath where scraped off, and its corky ridges twist in a kind

of peculiarly close pattern. The Amoor and the Sakhalin cork trees are much less corky at the trunk than the three other species.

All the cork trees bear themselves in a way which suggests a young ailingthus, or at least an ailingthus which has no drooping branches. Mature trees can easily be identified on the habit alone. The Japanese species has branches that grow up freely and tend to become slanting, taking leave of absence from the short trunk at about half, or at little more than half, a right angle. The Chinese kind resembles somewhat the Japanese, but has shorter and stouter branches and branchlets, which in most trees shoot upward, so that the crown is as stiff as that of any plant known in cultivation. *Lavallei* is different; it tends to spread at the top in a way that suggests the honey locust, but for the rest its branches and twigs are much like those of the Chinese species. Both the Amoor and the Sakhalin species are less rigid and more slender than the other three kinds. Young specimens can be mistaken for none too robust plants of the Japanese description. Around New York and in New York, where the cork trees are found in the majority of the largest parks, the Japanese and the Chinese kinds are most abundant and freely propagate themselves by seeds, which give evidence of being carried about to some extent by birds. *Lavallei* is not common. Rare in the eastern part of the country are the Amoor and Sakhalin species, although the name "Amoor cork tree" has become, as if it were, the trade-mark of the whole group.

What is being distributed or sold as Amoor cork tree is mostly the Chinese and the Japanese species. A picture of a branchlet of the true Amoor cork tree, showing the graceful, almost drooping habit of the leaves, accompanies this article.

As well as by the bearing of the whole plant, which, unfortunately, is to be seen at its best only in mature specimens, the different species can be identified with reasonable accuracy by looking at the leaflet under an ordinary magnifying glass. The Amoor and the Sakhalin species have thin, comparatively delicate and long-pointed leaflets, which could not be told apart were it not that those of the former are set around the margin with a row of hairs, while those of the latter are there hairless, or nearly so. The Japanese plant has leaflets that are short-pointed and rounded at the base, fairly hairy at the midrib. The Chinese species is variable, but, so far as we have it cultivated, it is the easiest of all to identify because it carries leaflets that are well covered with soft whitish hairs underneath. Lavalley has leaflets that sometimes are hard to distinguish from those of the Japanese species; they differ, however, in their being narrower, more long-pointed and not so evidently rounded at the base. The small flowers and the black fruits of the cork trees, of course, are quite distinctive for the whole group and are not to be mistaken for those of any other commonly cultivated plant. The difference among the various species in this respect, however, is slight and can provide a headache even to a professional botanist.

If the preference of the writer may be given as an indication of the value of the various kinds, the Japanese and Lavalley are the best. They blend more or less successfully with the landscape, as all cork trees do, but better than the Chinese species, which is the stiffest of all. Used as single specimens, or in groups in an open lawn away from walks, they turn out to be striking subjects, quite resistant under city conditions. The Amoor and the Sakhalin species are less stately and less tree-like, so far as the writer has had the occasion of seeing.

All the cork trees are easily propagated from seeds and adapt themselves to almost any soil condition.

Their growth is moderately rapid and often seems to be slower than actually it is, because the trunk goes up in branches before attaining a good height.

ADVERTISING FOLDERS.

Corliss Bros., Inc., are nurserymen and florists located at Gloucester, Mass., on beautiful Cape Ann. Their problem is to make themselves as favorably known to the summer residents as they are to the folks who live on the cape the year around. To this end they have instituted a direct-mail campaign. Its success is spurring them to additional efforts.

Nurserymen in general are too apt to neglect the opportunities offered them through the judicious use of the services of the post office. For that reason a short summary of the methods used by Corliss Bros. may help other nurserymen with similar problems.

All customers are sent a retail catalogue of nursery stock amply covering the spring selling season and including a chronological notation of the flowering season at the Corliss nurseries.

Following this catalogue, a series of three attractive little folders is sent to a general list of possible prospective customers. Clifford D. Corliss, general manager of Corliss Bros., Inc., does not state how this list is assembled, but probably the names are accumulated in several different ways. Customers, hotel and board-

ing house managers, and associations advertising the vacation possibilities of the section are all excellent sources from which to secure names of interested individuals.

The first folder is mailed in March and its primary purpose is to introduce the Corliss nurseries to prospective customers, seemingly without making this point its objective. Only eighteen words are used to extend an invitation to visit the nurseries, while nearly 500 words are devoted to the scenic beauties and points of interest of the cape section.

In April the landscape department sponsors the second folder, which tries to create an interest in nature and in the latent possibilities of home and its surroundings. This folder solicits inquiries and offers advice and estimates.

The third folder is mailed September 1 and offers nursery stock for sale and strongly urges the prospect to accept the cordial invitation to visit and inspect the nurseries and enjoy the beauty of the fall bloom.

These folders try to guide prospective customers to purchase only good material because of the lasting satisfaction gained thereby. Their basic purpose is to promote late summer and fall business, but, incidentally, they stimulate business throughout the entire season.

All letters and bills are accompanied by circulars to acquaint customers with the variety and quality of materials and services offered by the nursery.



Branchlet of *Phellodendron* (Amoor Cork Tree), Showing Drooping Habit of Leaves.

Rhododendron Hardy Understock

*Results of Tests in Propagation by Cuttings of
Cunningham's White Variety—By L. C. Chadwick*

Among the problems confronting the rhododendron grower is that of selecting a hardy understock which is tolerant of alkaline conditions. The use of such an understock for some of the better hybrids would extend the range of rhododendron culture and greatly increase the demand for these plants.

A few rhododendrons are known to be tolerant of alkaline conditions. Cunningham's White has been placed in this group by some growers in England. However, this clonal variety is not altogether hardy and has presented some problems in propagation. According to Clement G. Bowers, author of the recent book on "Rhododendrons and Azaleas," Cunningham's White is the result of a cross between *Rhododendron maximum* and *Rhododendron cinnamomeum* and is only slightly harder than *Rhododendron ponticum*. As grown in northeastern Ohio, plants of this variety have exhibited a greater degree of hardiness. During the winter of 1934-35, 3-foot plants were frozen back more than a foot; however, during the winter of 1935-36, little or no injury was observed. Both winters were extremely cold, with temperatures dropping as low as 17 and 22 degrees below zero. The condition of the plant as it goes into the winter, the amount of snowfall and the amount of moisture in the soil determine to a large extent the degree of injury. Since the extent of the injury, so far as has been observed, has been limited to the top of the plant, it would not prevent its becoming a satisfactory understock.

Regarding the propagation of *Rhododendron Cunningham's White*, Bowers states in his book, "This clonal variety can be rooted quite readily from cuttings of ripened wood, taken in August and held over winter outdoors in a coldframe, the roots being formed by spring." In another place he states, "Cuttings are removed close to the older wood and placed in a mixture of sand and granulated peat, in an outdoor cold-frame bed, covered with a glass sash and shaded. They should be kept reasonably moist, and the whole

frame should be covered with a matting or litter for frost protection after cold weather sets in. They appear to do better in a frame than in a greenhouse. It is said that in Germany the cuttings are taken in November and rooted in sandy soil warmed over a hot water bed. They are rooted in March and may be potted."

Attempts at rooting cuttings of this variety in northeastern Ohio by the usual commercial methods have resulted in a low percentage developing satisfactory roots. Layering has been successful, but when the layers are severed from the plant at the end of two years they are too large for grafting. A rooted cutting after one year's growth in pots or beds makes an ideal size for grafting. Preliminary tests were conducted during the fall and winter of 1934, which gave some leads that determined the methods of procedure followed during the fall and winter of 1935 and 1936 and reported here.

Procedure.

Cuttings of varying degrees of maturity were taken early in October

and immediately packed in moist sphagnum moss. The importance of selecting healthy cuttings and keeping them fresh and turgid cannot be overestimated. After a day's time en route to Columbus, they were held in cold storage, about 40 to 45 degrees Fahrenheit for two to four days, after which they were recut, treated and placed in the media as given in tables I and II. In their preparation no buds were removed from the cuttings. All cuttings were handled in a grafting case located in a north lean-to greenhouse. The temperature of the cases varied from 60 to 67 degrees. Chemical solutions, where used, were applied to the rooting medium with the use of a sprinkling can at the rate of two liters (approximately two quarts) per square foot of bench space. Plots without chemical treatments received similar quantities of water. Additional amounts of moisture were not applied to any plots until about the last of February, except plot 7, where additional acetic acid solution was applied at varying intervals as the sand dried out. The frames were covered with glass, which was turned

TABLE I
Influence of Chemical Treatment of the Media on the Rooting Response of
Rhododendron Cunningham's White Cuttings
Cuttings taken 10/16/35

Medium	Treatment of Medium	Type of wood	No. of cuttings taken	No. rooted 2/29/36	Total No. rooted 6/15/36	Per cent rooted	Average per cent rooted per treatment
One-half sand and one-half German peat	Check	Succulent	30	21	23	76.7	61.1
		Semimature	30	13	19	63.3	
		Mature	30	12	13	43.3	
	0.05 mol. potassium permanganate. 2 liters per sq. ft.*	Succulent	30	2	5	16.7	16.7
		Semimature	30	2	5	16.7	
		Mature	30	2	5	16.7	
	0.025 mol. potassium permanganate. 2 liters per sq. ft.	Succulent	30	18	24	80.0	48.9
		Semimature	30	5	7	23.3	
		Mature	30	13	13	43.3	
German peat	Check	Succulent	30	14	16	53.3	46.7
		Semimature	30	17	18	60.0	
		Mature	30	8	8	26.7	
	0.05 mol. potassium permanganate. 2 liters per sq. ft.	Succulent	30	5	6	20.0	28.9
		Semimature	30	6	7	23.3	
		Mature	30	11	13	43.3	
	0.025 mol. potassium permanganate. 2 liters per sq. ft.	Succulent	30	16	17	56.7	47.8
		Semimature	30	13	14	46.7	
		Mature	30	11	12	40.0	
Sand	95% acetic acid, 1 part—10,000 H ₂ O. 2 liters per sq. ft.	Succulent	40	22	27	67.5	56.2
		Semimature	40	17	27	67.5	
		Mature	25	3	5	20.0	

*Equivalent to 1 ounce to 1 gallon of water, applied 2 quarts per square foot.

each morning to remove excessive moisture.

Observation of the cuttings and a perusal of the data given in table I indicate that the 0.05 molecular solution (approximately one ounce per one gallon of water) of potassium permanganate applied to the rooting medium was too strong, thereby injuring the cuttings and lowering the per cent rooting. The 0.025 molecular solution (approximately one-half ounce per one gallon water) likewise appears to have caused some injury in the mixture of sand and peat, but not in the peat plot. In the latter case, however, it caused only a slight increase in the rooting percentage. The sand medium treated with acetic acid gave fair results, especially with the succulent and semimature cuttings, but was not so favorable as the check plot in the mixture of sand and peat. It is possible to explain the superiority of the check plot in sand and peat over that in peat on the basis of acidity. It may be that the peat moss is too acid for best results. The tendency for peat moss to hold large quantities of water may also be partly responsible for the lower percentage of rooting. There is no explanation of the poor results of the semimature cuttings in the sand and peat plot treated with 0.025 molecular potassium permanganate. Disregarding the poor results in this particular case, this potassium permanganate treatment was equal to or a little better than the check plot.

The data presented in table II again indicate the superiority of the sand and peat mixture over peat alone.

The influence of treatment of the cuttings placed in peat is of no advantage. However, the potassium permanganate treatment of cuttings placed in the mixture of sand and peat raised the average per cent rooted 14.5 per cent. The influence of the treatment is especially noticeable with the mature cuttings.

The sucrose and the combined sucrose and potassium permanganate treatments appear to have had a favorable reaction on the semimature cuttings.

Conclusions.

The conclusions that may be drawn from these tests are: (1) Succulent and possibly semimature wood are the most favorable types for cuttings. (2) A mixture of half sand

and half German peat provides a more satisfactory rooting medium than German peat moss. This superiority is shown not only in the percentages of cuttings rooted, but also in the ease of the removal of the cuttings from the rooting medium. (3) If sand is used as a rooting medium, it must be of acid reaction. (4) Chemical treatments (potassium permanganate and acetic acid) of the rooting media as practiced appear of no advantage. (5) Treatment of cuttings with potassium permanganate may be of some advantage especially with mature wood cuttings.

TEN NEW GRAPES.

Black, red and green grapes for all seasons and to meet all tastes are included in the list of ten new varieties recommended to grape growers for trial by the fruit specialists at the New York experiment station, at Geneva, where they originated. Stocks of the new sorts, as in the case of all new varieties of fruit originating at the station, are now being propagated and distributed by the New York State Fruit Testing Association, with headquarters in Geneva.

Efforts to improve grapes by hybridization at the experiment station for the past twenty-five years have had as their chief objective the combining of native and European grapes in an effort to obtain a combination of the fruit characters of the European grape with the vine characters of American grapes. Over 20,000

hybrid grapes have been grown on the station grounds during the past twenty-five years with this end in view, and a remarkable degree of success has been attained.

Among the new black grapes singled out for further testing by growers are Erie, Fredonia, Sheridan, Watkins and Wayne. Erie and Fredonia are notable for their earliness, the station fruit men being especially enthusiastic about Fredonia, which they assert stands alone as an early black grape for New York state. Similarly, Sheridan is said to be the most promising late-keeping black grape to extend the season of the Concord type. Sheridan is now being grown commercially in some sections. Watkins is noteworthy for high quality and is recommended chiefly for the home vineyard.

Ontario is offered as the best early green grape and is rapidly becoming a standard variety for the eastern United States. Seneca is more yellow than green and is almost a pure vinifera type, ripening in early mid-season. It is believed to have a bright future. For red grapes, the Geneva specialists recommend Dunkirk, Hanover and Urbana. Dunkirk is similar to Delaware, but larger and ripens later. Hanover ripens about October 1, while Urbana should only be grown where Catawba ripens with certainty. Urbana is truly remarkable in its keeping qualities in common storage, however, standing up without shriveling, shelling or decaying until March.

TABLE II

Influence of Chemical Treatment of the Cutting on the Rooting Response of Rhododendron Cunningham's White Cuttings. Cuttings taken 10/18/35

Medium	Treatment	Type of wood	No. of cuttings taken	No. rooted 2/29/36	Total No. rooted 6/15/36	Per cent rooted	Av. per cent rooted per treatment
One-half sand and one-half German peat	0.05 mol. KMnO ₄ for 14 hours.	Succulent	15	10	12	80.0	75.6
		Semimature	15	6	9	60.0	
		Mature	15	11	13	86.7	
	0.05 mol. sucrose for 12 hours.*	Succulent	15	10	11	73.3	60.0
		Semimature	15	11	12	80.0	
		Mature	15	4	4	26.7	
	0.05 mol. sucrose for 12 hours, then 0.05 mol. KMnO ₄ for 7 hours.	Succulent	15	8	11	73.3	57.8
		Semimature	15	7	12	80.0	
		Mature	15	2	3	20.0	
German peat	0.05 mol. KMnO ₄ for 14 hours.	Succulent	15	8	8	53.3	48.9
		Semimature	15	10	10	66.7	
		Mature	15	3	4	26.7	
	0.05 mol. sucrose for 12 hours.	Succulent	15	4	5	33.3	48.9
		Semimature	15	4	10	66.7	
		Mature	15	7	7	46.7	
	0.05 mol. sucrose for 12 hours, then 0.05 mol. KMnO ₄ for 7 hours.	Succulent	15	10	11	73.3	46.7
		Semimature	15	2	5	33.3	
		Mature	15	3	5	33.3	

*Equivalent to 1 pound to 7 gallons of water.

New Peach Varieties

The Place of Some of the More Recent Candidates for Favor in Relation to the Standard Varieties—By M. J. Dorsey

As an approach to a discussion of the new peach varieties we may well consider first how difficult it is to size up properly a new variety in all of its aspects. We must realize that when a new variety is introduced to the trade we have to reckon with the place an old one of the same season has already made for itself. Variety changes usually take considerable time, and we cannot gain all of the information needed about a new variety by simply looking at it, nor can we induce the trade to accept it without trial. This fundamental situation requires that we proceed cautiously in giving up an old variety as well as in taking on a new one.

It will be seen, then, that some of the things we want to know most about a new variety are already well known about the old one. Nurserymen know how the old variety can be handled in propagation, how vigorously it grows, or how easy it is to propagate. The grower has had experience with it as to yield, hardiness, size, season, quality and trade acceptance. The dealer knows how it stands up in shipment and on the fruit stand, and he knows also, only too well, how much the public knows about it and what the demand is on the market. Finally, the consumer also knows that some peaches are better than others, that some tickle the palate, while with others the repeat orders from the family are lacking. Taking this situation all in all, we have real money value in our experience with and knowledge of a variety. The time element has entered into gaining this information, and one is reluctant to depart from known values to the unknown.

We need to reckon with still another thing in properly estimating varieties, and that is that there is a tendency today for a brand name to be used as a substitute, at least in part, for a variety name. This has followed in the wake of modern advertising campaigns and has arisen because in some instances either

coöperatives or large companies are attempting to build up public favor back of the particular product they handle. For instance, the American fruit growers now pack under the Blue Goose brand peaches, apples, oranges, grapefruit, onions, potatoes, etc. While it is true that the variety name goes along with the brand, nevertheless the public is required to learn two things instead of one. This situation is not serious or acute in the peach, at least not yet, but it affects the status of a variety name and we shall need to watch the general trend of this practice.

Most of us are familiar with the fact that the outstanding feature of the eastern peach situation is the way in which it is dominated by Elberta. Elberta is the Concord, McIntosh or Valencia of the peach world. We start the season with Elberta from the south and end up with it still dominant in Michigan

and New York. It is true that this dominance is changing here and there, but nevertheless the public still knows Elberta better than any other peach variety.

In this general scheme of things we have what some have called the Illinois "niche" in the Elberta market. This is brought about by a number of things. To the south we have Elberta coming from Arkansas and Tennessee; to the north of us Michigan is waiting for the Illinois crop to get out of the way.

We have the background now for an evaluation of some of the newer peaches. Each of the newer varieties will be considered in relation to the older ones of the same season. The table on this page has been arranged with this in mind.

It is interesting to note in the newer varieties listed in the table the emphasis which has been placed upon hardiness. Naturally, hardiness as a

NEWER VARIETIES OF PEACHES AND THEIR CHARACTERISTICS.

	Days earlier or Date of later than Ripening Elberta		Variety	Flesh color	Rank in hardi- ness	Date and place of origin or intro- duction
July	1	40	Mayflower	white	1	Alabama 1911
	1	40	Red Bird (Ea Wheeler)	gr. yel.	1	Texas 1900
	5	39	Greensboro	gr. yel.	1	North Carolina 1891
	5	39	Buttercup	yellow	1	New Jersey 1916
	10	31	Golden Jubilee	yellow	2	New Jersey 1921
	10	31	June Elberta*	yellow	2	1914
	13	28	Carman	white	1	Texas 1889
	13	28	Radiance	white	2	New Jersey 1914
	20	21	Champion	white	1	Illinois 1880
	20	21	Rochester	yellow	2	New York 1900
	20	21	Hiley	white	2	Georgia 1886
	24	17	Vedette	yellow	2	Ontario 1915
	27	14	South Haven	yellow	1	Michigan 1915
	27	14	Hale Haven	yellow	1	Michigan 1920
Aug.	27	14	Redelberta	yellow		Washington 1928
	27	14	Veteran	yellow	2	Ontario 1919
	27	14	Valiant	yellow	2	Ontario 1917
	3	7	Early Elberta	yellow	2	Utah 1920
	3	7	Fairs Beauty	yellow	2-3	Texas 1919
	5	5	Canadian Queen	yellow	3	Illinois 1921
	7	3	Belle	white	2	Georgia 1870
	8	2	Kal-Haven	yellow	2	Michigan 1930
	10	0	Elberta	yellow	3	Georgia 1870
	10	0	Gage	yellow	3	Illinois 1910
	10	0	Hardee	yellow	1	Ohio 1925
	10	0	Markberta	yellow	3	Illinois 1923
	10	0	J. H. Hale*	yellow	3	Connecticut 1910
	10	0	Candoka*	yellow	3	Washington 1927
Sept.	10	0	Hope Farm	white	1	New Jersey 1925
	10	0	Kalamazoo	yellow	1	Michigan 1869
	17	7	Wilma	yellow	2	Ohio 1915
	17	7	Mark Late	yellow	2	Illinois 1932
	20	10	Lemon Free	yellow	2	Ohio 1885
	22	12	Halberta*	yellow	3	Illinois 1921
	25	15	Salwey	yellow	2	England 1844
	5	25	Heath	white	2	New York 1787
			*J. H. Hale flower type and pollen sterile.			

Paper presented at recent meeting of Illinois State Horticultural Society by M. J. Dorsey, chief in pomology, University of Illinois.

variety characteristic comes to the fore as a result of some of our experiences with low temperatures generally in the fruit world during the last few years. We know the influence of winterkilling upon yields in general and, naturally, hardiness has a strong appeal in choosing new variety selections. This is all well and good if on account of this we do not attempt to move the industry farther and farther north, thus not solving the hardiness problem by planting the newer types, but merely shifting it to another locality. It is only fair to state, however, that as compared to some of the older varieties, the newer ones have many things to commend them in this respect. That is why an attempt has been made to rate the different varieties as to hardiness in the table.

Speaking more specifically of the early group ripening a month or so before Elberta, it will be seen that we have several choices. As matters stand now, most growers in southern Illinois would choose Red Bird as the most promising variety of the early group. The fruit characteristics of Red Bird, however, would not permit a heavy planting of this variety. Some feel that it is unusually good as a canning peach, but it is probable that not many people are in the canning mood as early as it ripens. If a yellow peach is desired, Buttercup and Golden Jubilee might well be considered for planting to a limited extent. Both of these come from the New Jersey station, and of the two, Golden Jubilee would probably be preferred.

Considering the group ripening before South Haven, it would seem that June Elberta or Carman would be preferable. Both of these varieties are well known in Illinois, but have only made limited progress. Of the varieties ripening with Carman, it would seem that none challenge the leadership of this variety seriously. Radiance, another New Jersey seedling, having white flesh, does not seem to be quite so hardy in the bud as Carman, and on that account does not offer much of a challenge to this old variety in Illinois.

The next group in the Champion season includes Rochester, Hiley and perhaps Vedette. Of this group, Champion or Hiley, both white peaches, would probably be preferable for limited planting over

Rochester. Vedette, which may be assigned to this group, is a yellow peach, but is unknown in this section of the country. It probably is not so hardy as Champion.

In the season of South Haven—with which we have had considerable experience and which has proved to be hardy in the bud, although last winter not quite so hardy in the tree or wood as Elberta—we have Hale Haven, Redelberta, Veteran and Valiant to consider. Of this group, Hale Haven stands out as the most promising of the list. It is about as hardy in the bud as South Haven and has better fruit characteristics. It has been given a rank of 1 in hardiness, although it may rank nearer 2. Redelberta is spoken of highly where it has been tried, but it is unknown as yet in Illinois. Veteran and Valiant are both yellow peaches and should be tried.

Coming now to the varieties ripening a week or so ahead of Elberta, we have Early Elberta, Fairs Beauty, Canadian Queen, Belle and Kal-Haven to choose from. None of these has been given first rank in hardiness, and while Fairs Beauty is thought well of in Texas and Arkansas, it has not been tested here. Of this list Early Elberta and Canadian Queen stand out. Kal-Haven is worthy of consideration.

It will be noted in the table that the variety list has been arranged according to the approximate ripening season when compared with Elberta. In the Elberta season I have limited the selection to Gage, Hardee, Markberta, J. H. Hale, Candoka, Hope Farm and Kalamazoo. It will be noted that in this list Hardee, Hope Farm and Kalamazoo have been given first rank in hardiness. Of the three, Hardee stands out as being the most promising and worthy of trial. Markberta, like Gage, ranks about with Elberta in hardiness. In view of the tree characteristics of Gage and its ability to withstand sleet storms, it would seem that this variety might well be given a permanent place in our list for considerable production at the Elberta season. Markberta should be tried on account of its firmness of flesh, large size and excellent color. Unfortunately, we have in Candoka and J. H. Hale two of the pollen sterile varieties. We have had experience with J. H. Hale, and growers generally in Illinois

would not extend its planting. Candoka, however, has unusual fruit characteristics and, as we see it now, shows much of the growth characteristics of J. H. Hale. It is worthy of trial, however, on account of its excellent fruit characteristics, and if it will produce and not form buttons, there will probably be a place for it in our recommended list.

Of the varieties ripening after Elberta, Mark Late and Halberta, although the latter is pollen sterile, would probably be preferred over any others available in that season. Certainly the Lemon Free is not suitable for Illinois conditions. It is probable that on account of the oriental fruit moth we should not consider varieties ripening much more than a week later than Elberta except under special conditions.

In surveying the varieties included in the table it appears that we have used a good many variations of the name Elberta; for instance, we have the June Elberta, the Early Elberta, the Late Elberta, the Redelberta and, if we are not careful, the Gage Elberta. Then, too, we are starting off another group of Hale names. It will be clear upon reflection, therefore, that there is a tendency in the peach world to overwork some of the well known names.

S. C. S. PLANTING VARIED.

More variety in the program of tree planting for soil-erosion control is in prospect as the soil conservation service nurseries swing into increased production of planting stock from native seeds, states H. H. Bennett, chief of the service.

In 1933 tree planting was somewhat hampered by the difficulty of getting enough native seeds. This led to a rather one-sided planting program, chiefly of black locusts, the seeds of which were abundant.

During the planting season of 1935-36 the service set out approximately 277,000,000 seedlings, of which sixty-eight per cent were black locusts. Since that time more seedlings of various other native species, including many softwoods, have become available. In the 1936-37 season, only twenty-nine per cent of the trees being planted are black locusts. Present plans call for a further reduction during the 1937-38 season to twenty-one per cent.

Native Plants of Garden Value

*Fourth in Series of Articles on Neglected Opportunities
for Nurserymen in Native Material—By C. W. Wood*

The large lily family has given an immense number of good garden plants and still contains a broad field for exploration and exploitation. Of native plants belonging in that category, *Chamaelirium luteum* may be mentioned as a bright prospect, for, though it has been known since the time of Linnaeus and of Willdenow, who named the genus, it is scarcely known in gardens. And it deserves a better fate. Its common name of fairy wand indicates some of the grace of its 1-foot to 3-foot stems, which bear terminal racemes of small, 6-pointed white stars from May until late June or early July, the flowering season depending largely upon the latitude.

If you have had trouble in growing this species, you may be heartened to know that it needs a moderately acid soil, not so highly acid as that demanded by trailing arbutus and others of the heath family, but decidedly one that is free of any trace of lime. Given this acidity and a fair degree of moisture (it grows naturally in low ground from Massachusetts to Nebraska and southward), the plant should cause one no great difficulties in growing it. It may be propagated from fall-sown seeds when available and by division. Incidentally, the species is dioecious, i.e., with the two kinds of flowers on separate plants, so male and female plants must be present to secure fertile seeds.

Chelone.

The turtleheads are fine ornaments in their places, but their need of much moisture restricts their uses to naturally moist places and the bog, or to special culture if dry soil is to be their home. There are four species, all native to the United States; the two most readily available, *C. glabra* and *C. obliqua*, are perhaps of most garden value. They grow about two feet high, with rosy pink flowers in the latter, and white or white tinged pink, in the other. *C. Lyonii* from the mountains of Virginia southward, has rosy purple flowers. It did poorly for me the two or three times I tried it, apparently needing an acid

soil, as I was later advised, which I failed to provide. The two mentioned in the first part of this paragraph do not, however, offer any hard cultural problems except that they do best in a moist soil. They may be grown in the ordinary garden, however, if they are given a partly shaded situation and a mulch of four inches or so of well rotted manure or leaf mold. Propagation is from seeds or division.

Chimaphila.

The chimaphilas are not much used in gardens, owing, I suppose, to their reputed difficult culture. That is an undeserved reputation, however, for they offer no hard problems if they are given an acid soil in shade. Our two eastern species, *C. maculata*, spotted wintergreen, and *C. umbellata*, pipsissewa, or prince's pine, are at least in that category, though I have had less success with the two Pacific coast species, *C. Menziesii* and *C. occidentalis*. Our eastern plants make excellent ground covers for open woodlands, growing from a few inches to a foot in height, spreading widely by means of creeping rootstocks and bearing whitish to pinkish flowers in summer. They should make good property for the neighborhood grower who can show the growing plants to his customers. Propagation is readily accomplished by division of the rootstocks, placing the divisions in a shaded frame where they will have plenty of water until they become established.

Chiogenes.

The creeping snowberry, *Chiogenes hispida*, is one of the aristocrats among American plants and, like others of the aristocracy, is rather difficult to approach. Its acquaintance may be cultivated, however, by the patient, careful person, a close friendship revealing one of the loveliest evergreen creepers the imagination can picture. All this beauty includes, in addition to creeping branches, which are clothed in small, thyme-like evergreen leaves, a generous sprinkling of white berries,

as much as one-quarter of an inch in diameter, which follow the greenish white flowers of May. I find it growing at its best in highly acid soil in moist places, often covering a rotting, water-soaked hemlock log, its white fruits and green film against the brown of the decaying log making a remarkably beautiful picture. This is not an easy plant to grow, but one whose beauty justifies the care needed to make it thrive and one that needs only to be shown to be sold to gardeners with facilities for its care. It may be grown from fall-sown seeds or from divisions, but perhaps preferably from cuttings taken in August and rooted in peat in a close frame.

Chrysogonum.

Because some horticultural writers have spoken disparagingly about the one member of this genus of composites that I know, *Chrysogonum virginianum*, it has had little attention from gardeners. It is true, no doubt, that the plant is not outstandingly beautiful, but its habit of producing arnica-like yellow flowers from May until midsummer, usually well into August, is surely not without merit. It is said to grow naturally in dry soil from Pennsylvania to Florida, but I get more flowers over a longer period if it is planted in light shade where the hose can reach it during droughts. It makes tufts of long-petioled, ovate leaves, from which spring the yellow heads, practically stemless when they first show color, but eventually eight inches or so high. The flowerless shoots form runners, which spread the foliage mass over large areas in time and give a ready means of increase.

Chrysopsis.

If one were to depend upon the general run of horticultural literature, he would probably entirely overlook the golden asters, because few are mentioned, and more often than not there is no enthusiasm shown when they are referred to. I have had only a few (perhaps not more than eight) of the twenty or more species, and not a single one of them was without garden value, though some were

better, of course, than others. Of the latter, *Chrysopsis mariana* is perhaps the best, though it would be hard to place it above the better forms of *C. villosa*. The large-flowered forms of the last-named are really showy, making good cutting material. There is material in the genus for all sorts of dry, sunny situations, from the border stature of *C. villosa* to the rock garden proportions of *C. falcata*. In fact, no one needs complain about a lack of plants for dry, sunny spots so long as he has the golden asters. They are mostly low plants, with golden blooms in a many-flowered head, often corymbose. A few are annual, such as *C. pilosa*, or biennial, as *C. gossypina*, but they are mostly perennial, asking for the simplest fare. They are easily grown from seeds, which is perhaps to be preferred in most cases, though particularly good forms, like variety *Rutteri* of *C. villosa*, are best grown from cuttings.

Cimicifuga.

The bugbanes, especially *Cimicifuga racemosa* and its even better form, *simplex*, are among the noblest of native perennials and are eminently fitted to fill a number of roles in the garden assembly—roles which now seldom know the plants. Their greatest value is in the hardy or shrub border, where their graceful habits, stately growth and period of flowering qualify them for extensive use. These bugbanes are plants for part shade in rich soil. In gardens where no shade is available they may often be accommodated by making the soil deep and rich in muck and leaf mold and mulching thickly with leaves before the coming of dry, hot weather.

Cimicifuga racemosa is a stately plant, growing six or seven feet high under good culture, with long, feathery racemes of white flowers in July and August. Perhaps *C. simplex* should not be included in this discussion, for it is a Siberian plant, though it is reported as also occurring in Alaska. There is much confusion as to where it should be placed in the systematic classification, some making it a variety of *C. racemosa*, others placing it with *C. foetida*, another Siberian plant, while still others give it the dignity of specific rank. Be that as it may, *C. simplex* is of great value as an ornament in the fall gar-

den and has no little merit as a cut flower, though its evil smell forbids too close association with sensitive noses. It is not so tall as *C. racemosa*, seldom getting higher than three feet, and the flowering stems are gracefully arched, instead of being held erect as in the case of the other. There are a half-dozen or more bugbanes, few of which, other than the two named, are used in gardens. It may be that the others would be of value to us if we should search them out and give them a thorough trial. Propagation may be effected by sowing seeds in an outdoor frame in autumn or by division of the stocks.

Cirsium Pitcheri.

Most thistles deservedly have a bad reputation among gardeners, and it is consequently hard to sell even the best of the species if they are known to be thistles. I think, though, that it would be safe to sell *Cirsium Pitcheri*, for it has never self-sowed in my garden, and it appears to be more or less monocarpic. It grows along the shores of Lake Michigan in pure sand, where its pure white, woolly leaves in typical thistle rosettes form a striking picture. In the part of its range with which I am familiar, its home is practically always in an acid medium. Reasoning from these facts, I have given it a sandy, acid soil in the garden and find that it reacts quite favorably to the treatment. It would be better from an ornamental viewpoint if the plant



Ralph B. Ricklefs.

AMERICAN NURSERYMAN

never bloomed, for the cream-colored flowers in typical thistle heads during July and August are of small account.

RALPH B. RICKLEFS.

The joining of landscape architect and nurseryman is nowhere better illustrated than in the person of Ralph B. Ricklefs, who was elected president of the Kansas Nurserymen's Association early this year and then last month chosen president of the Association of Kansas Landscape Architects, at the meeting reported in the issue of February 15. It is likewise illustrated in his firm, the Kansas Landscape & Nursery Co., Salina, on whose letterhead appear the names of Robert Scott, nurseryman, and Ralph B. Ricklefs, landscape architect.

Mr. Ricklefs graduated as a landscape architect from Kansas State College in 1926. At that time the Kansas Evergreen Nurseries, of Manhattan, started a branch office at Salina, and he was put in charge of it. In 1929 he bought a half interest in the firm, which was reorganized as an entirely separate enterprise under the name of Kansas Landscape & Nursery Co., now having no connection with any other nursery firm.

The company does landscape designing and planting, as well as providing a complete maintenance service, including pruning, spraying, lawn work, etc. Considerable landscape contracting has been done, including state highway work in the last few years. Mr. Ricklefs has designed several municipal parks and park plan cemeteries. The company has a 4-acre show and sales ground in its twenty-four acres of growing stock, which does not include a 20-acre tract which the company has under shelterbelt lease expiring this month.

THE solid black of reverse plates may be necessary in small advertisements run by nurserymen in farm journals on coarse newsprint paper, but they are out of place on the fine enamel stock used in the leading national magazines. If the extent of the copy does not give opportunity for the use of margins, a screen or outline background will make such advertisements effective and still in keeping with the character of the publication.

Propagation and Field Culture of Roses

*Rose Specialist Presents Conclusions of Long Experience
at Ohio Short Course — By Gerard K. Klyn, Mentor, O.*

The first essential of growing good roses is suitable soil. This is not only the first, but the most important requirement. We have found a heavy clay the most suitable. This produces hard tops with more fibrous roots. If the soil is not a good rose soil from the beginning, it will take a long time and it will cost large sums of money to make it suitable.

Drainage is one of the most important factors. Hence all our ground is tiled with 4-inch tile, laterals running thirty feet apart, which costs about \$150 per acre. This drainage system will take off excessive water, and the circulation of air in these laterals is beneficial during the dry hot weather.

We rotate our crops, giving our ground two years' rest after a crop of roses has been dug. The first spring we sow oats and clover. As soon as the oats are cut, we give the field a light or heavy coat of manure, depending on the fertility of the soil. This makes a nice clover sod before cold weather sets in. The second summer, as soon as the crop of clover has grown to maturity, it is plowed under. We follow this with a crop of soy beans, that are plowed under in the fall.

Fertilizers.

Our experience is that the most benefit is derived from a coating of manure during the third, fourth and fifth years.

We have never been successful in using commercial fertilizer. One year a large fertilizer company experimented in our fields for a whole season. The material was applied in different quantities during various periods on the same field, but when fall came we could notice no difference in the growth whatsoever. It was tried as a top-dressing and was worked into the ground to a depth of about six inches. Success probably could be attained by using a great deal of water, but if you have to depend on the natural rainfall, it is too much of a gamble to use commercial fertilizer in the commercial growing of roses.

We grow the best roses on a soil which tests a pH of about 5 to 6 and

which is high in available nitrate, medium low in phosphorus and medium to high in potash. An alkaline soil will not produce good roses, and to adjust such a soil to the proper condition for commercial growing requires too much expense, although in private gardens it can be done satisfactorily.

The general contention seems to be that a sweet soil is required to grow roses. We had one field, the soil of which was tested by the department of agriculture, and the report was that it would take three tons of lime to the acre to get the soil in proper condition. We took a chance and did not put on any lime at all, and we grew one of our best crops of roses. I must add that during that season we had plenty of rain. The next year we tried a field which tested the same acid condition, but the results were not satisfactory because of the dry summer. We take it for granted that roses will do well on an acid soil provided there is plenty of rain during the growing season.

Understocks.

After you have selected and prepared your ground comes your selection of understock. There are many opinions as to what is the best understock. Multiflora japonica we all know is mostly used because it produces a strong growth. It does not give the same color and perfection of blooms as rugosa, canina, laxa or Manetti, nor does it give so long life to the rose as canina or laxa.

Rugosa we discarded entirely many years ago because it is susceptible to insects, pests and diseases. It also throws too many suckers, both from the stem and from the roots. In commercial growing it takes too much time to keep the suckers down, and in private gardens the suckers will soon make a sad-looking mess. Rugosa is also short-lived.

Canina does not seem suitable for our climatic conditions for commercial growing, as it is difficult to get a good stand of buds and the plants will not grow so vigorously, but it surely produces plenty of blooms of beautiful color if once established.

Manetti is satisfactory for hybrid perpetuals, polyanthas, some climbing roses and also a few varieties of hybrid teas. It is a clean understock and produces plenty of blooms with a decidedly better color than multiflora does. However, the commercial growing of Manetti is impossible because we cannot get a good stand of buds on the majority of hybrid tea roses with it as the understock. It is mostly used on roses for greenhouses for forcing because it produces more flowers and better color than any other understock, although odorata is very often used for the yellow varieties.

We have also tried laxa, which was satisfactory as to success in getting a good stand of buds, but it does not produce such heavy growth as multiflora, although the color and perfection of bloom are outstanding. We had to discontinue growing on this understock for the reason that the plants could not compete with those on multiflora for size. However, I liked laxa and really believe that it would be successful in private gardens.

After you have decided that you are going to use multiflora japonica for your commercial growing, there is still a selection to be made between rooted cuttings and seedlings and between the thorny and the thornless types. Years ago we always used the thorniest types we could obtain, under the impression that they produced heavier plants. However, we have now come to the conclusion that we produce just as heavy plants on the semithornless type. The growth, the color and perfection of bloom are the same.

Seedlings or Cuttings?

Although we use a small quantity of seedlings, for the bulk of our planting we use rooted cuttings. The cuttings will get an earlier start in the spring, while the seedlings, in favorable seasons, will produce more late growth. We prefer the early production, as any growth on roses after the latter part of August is likely to be soft. In our experience most of our trouble in storage arises from late growth or from stock that

dropped its foliage prematurely on account of black spot.

It has been said that seedlings will not sucker, and this is true if they are budded sufficiently below the crown. However, if a season is unfavorable for the growing of seedlings, there will be a great many short-necked plants, on which it is almost impossible to bud entirely below the crown, and under such conditions there will be more suckers from seedlings than from rooted cuttings. If you buy your cuttings from a grower who is careful about diseasing the cuttings, the number of suckers will almost be negligible. We have had the best success with the Dutch rooted cuttings. I am not saying this because I am of Dutch origin myself, but because we have tried home-grown cuttings from all parts of the country and the results have been usually unsatisfactory. The last couple of years we used some cuttings from home-grown sources. Our experience was that while we had a good stand of buds and growth started nicely in the spring, after a certain height was reached, the foliage would turn yellow and the plants just died. Last summer we budded 15,000 Magna Charta on those cuttings and lost about fifty per cent in this way by the middle of July. What made them act so we have not been able to determine. Our opinion is that bud and plant, although apparently alive, did not unite as they should, and when the plant grows to a certain size, not sufficient sap comes through the union to keep the plant growing.

Dusting.

As soon as your plants in the field begin to grow and have produced some foliage, it is advisable to start dusting or spraying to prevent mildew and black spot. It should be remembered that these cannot be cured, but must be prevented. There still seems to be a difference of opinion as to which method is most practical. We have used both and have found one as practical as the other, but in recent years we have used nothing but dust because it is so much easier to apply. With a good power duster, taking three rows at a time, one can dust a 10-acre field in the same time it takes to get the liquid spray ready. Some years ago we were always told to dust when the

dew was on the plants and when there was no breeze whatsoever. We have changed our practice and now dust when the foliage is dry. Our reason is that when there is moisture on the leaves, the dust will not be evenly spread. In the spots where the big dewdrops happen to be there will be no dust applied at all, and this is the place where black spot is most likely to start. We also like a little breeze, of course not too strong, because it will blow the dust onto anything that may be growing around the rose field and there may be some things which are liable to have the same diseases as your roses.

Budding.

The budding of roses is one of the most important items in the growing of roses. When your budding stock is in good condition and you have a poor stand of buds, you can rest assured that this is due to a poor selection of bud wood. This may not even be the fault of the man who cuts the buds, but it may be due to a condition which we humans so far are not able to determine. I can say this, however, that most failures in getting a good stem of buds are because the buds are cut too soft. Hard buds, even so hard that a budder has to use wood buds, will give a perfect stand provided your budder is very careful in cutting them.

There also seems to be a difference of opinion concerning the use of raffia or rubber bands for winding. We have found a rubber band three thirty-seconds of an inch wide and five inches long the most satisfactory. Last year, much to our regret, we used some wider bands. It is true that they are easier for the winder, but it is most difficult to obtain an

even distribution of pressure on the bud.

You will realize that when you start budding, your stock must be in proper condition. In a dry spell, when it is difficult to open up the bark, there is likely to be a poor stand of buds. With the experience we had again last year, we have decided to defer budding under such conditions. Then there is the possibility of too much sap in the understock, which practically drowns the buds. Under such conditions there may be a poor stand of buds. However, where a grower has only two months to bud, he has to do the best he can, as we cannot make the laws of nature just as we should like to have them.

Winter Protection.

After the budding is finished, there comes the question of winter protection for the buds. If all buds would stay dormant I should never spend any time giving them protection, because a dormant bud can stand a lot of cold weather. However, during some seasons fifty per cent or more of the buds will start to grow. It is for their protection that we hill up the plants with a two-horse cultivator to such a height that by the time spring arrives the rains will have washed away the hilling to such a level that most of the buds will be exposed. If we hill them up higher, the bud, being in the ground, will start to grow much faster than when exposed. Besides that, when the plant is hilled up, the freezing and thawing of the ground will raise and lower the plant. The result is that it will rub out the eye, and when spring comes you wonder why you have a good many live buds which never start

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to grow. If you have to hoe the bank away in the spring after the buds have started to grow, you may rest assured that the man doing this work will break a good many buds.

There is also a difference of opinion as to whether or not a grower should pinch his roses when they start to grow. If you do not pinch, your roses will grow fast, but if a good storm should come along, you are likely to find a large percentage completely blown out after the storm. Therefore, we stake and tie every rose. This is a great deal of work, but we always feel we are well compensated by having a strong early growth. If you do pinch, you are likely to have a bushier plant and you do not have to stake and tie, but you will also have more weak and late growth. Certain varieties, like President Hoover and Claudius Pernet, may produce many plants of only one or two canes if not pinched. However, we have planted those plants of one or two canes alongside those that were pinched and had three or four weaker canes. We had a much stronger growth and more flowers on the one and two-cane plants than on the others. I must add that a plant of these varieties with one cane we do not consider a No. 1 plant, but a plant of these varieties with two good strong canes we consider No. 1.

Harvesting.

After all this work is done, harvest time comes along. The digging and handling are most important in the results your customers will have when they plant the roses in their gardens. It takes constant and efficient supervision to see that the plants are handled in a proper manner. Most of the men you will have in your field do not know what it is all about and, even if they do, most of them do not care. It will not do to load or unload bundles of roses with a pitch fork or have your men stand on the top of the roses in order to get a big load on the truck. You may rest assured that you will see the effects in the spring. Neither should the roses be exposed to sun and wind for any length of time. This exposure will lower their vitality to such an extent that it will be difficult for the plants to get a good start after being planted.

The commercial growing of roses is a line in itself and requires constant attention. There is a lot of grief connected with it, much more than one

[Concluded on page 15.]

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18 to 24 ins., 2 branches	10.00	90.00
12 to 18 ins., 2 branches	6.50	60.00
6 to 18 ins., lining-out	5.00	40.00

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FOREST NURSERY CO.
McMinnville, Tenn.

J. R. Boyd
President

Personalty or Realty?

*Opinion in Illinois Supreme Court Case
Discusses Tax Aspects of Nursery Stock*

Opinion rendered by the chief justice of the supreme court of the state of Illinois in the case brought by Swain Nelson & Sons Co., Glenview, to test the application of the state retailers' occupation tax to landscape contracts is of particular interest for its discussion of trees and shrubs as personal or real property, in view of the articles in preceding issues of this magazine on other forms of taxation upon growing nursery stock.

The sales tax in the state of Illinois is known as the retailers' occupation tax, which is the sum of three per cent of any sale of tangible personal property. It is accepted that trees and shrubs sold apart from landscape service are tangible personal property subject to the tax. Labor and service charges in landscape planting, aside from the nursery stock, are not subject to the tax.

Swain Nelson & Sons Co. contended that its landscape contracts did not constitute a sale of tangible personal property, but a service for the improvement of the buyer's real estate. The case was carried to the state supreme court, where it was recently decided against the nursery firm, in the following opinion delivered by Chief Justice Herrick:

The department of finance, under the provisions of the retailers' occupation tax act (State Bar Stat. 1935, chap. 120, p. 2705,) entered a determination finding a tax due from the appellant and assessed the tax. The appellant commenced a certiorari proceeding in the superior court of Cook county, pursuant to section 12 of said act, for the purpose of reviewing

the hearing conducted by the department resulting in the determination of the tax liability. A hearing was had before the trial court on a motion by the department to quash the writ and dismiss the suit. The court allowed the motion and entered judgment. The cause is brought here on appeal.

The appellant is a corporation engaged in the business of growing trees and shrubs for sale to the public. It also acts as landscape architect. A portion of appellant's business embraces sales of trees and shrubs to customers, with delivery either at appellant's premises or at such places as may be designated by the purchaser. Tax liability on such sales is admitted and is not here involved. The controverted tax liability arises under the interpretation of contracts for improving, and landscaping with stock from its nursery, land of its customers, which service appellant claims is the major portion of its business. These improvement contracts are generally begun by the preparation of a landscaping plan and may include grading, draining and seeding the customer's premises. The selected trees and shrubs are then taken from appellant's land, transported to the agreed location and there replanted. The evidence was that, in such case, the contract is completed for the customer only when these trees and shrubs are properly growing in his land.

The question here presented is whether under these facts there was a sale of tangible personal property within the terms of the retailers' occupation tax act.

Sales at retail upon which a tax liability is created by the act, as defined under section 1 thereof, "means any transfer of the ownership of, or title to, tangible personal property to the purchaser, for use or consumption and not for resale in any form as tangible personal property, for a valuable consideration." The burden is cast upon appellant, as objector, to show the invalidity of the tax, the presumption being that it was legally levied and assessed. *People vs. Diversey Hotel Corp.*, 364 Ill. 298; *People vs. Maxwell & Co.*, 359 id. 570.

Appellant presents as a defense against liability that (1) the trees and shrubs in question are not tangible personal property, but are real estate at the time the

contract is made and become a part of the customer's real estate by reason of transplanting and growing in his soil before the terms of the contract are fulfilled by the appellant, (2) the act of severance from appellant's premises necessary to the fulfillment of the contract does not make the trees and shrubs personal property, because it is the admitted intention of both buyer and seller that such trees and shrubs will be growing in the buyer's land before the terms of the contract are fully performed by appellant, and (3) the transaction does not embrace a sale, but is essentially the rendition of a service for the improvement of real estate.

Appellant cites many cases involving controversies between vendor and vendee, executor and heir, landlord and tenant and like relationships where the holdings are to the general effect that growing trees and shrubs partake of the property nature of the land to which they are annexed. They are real property in legal contemplation and the mere removal thereof from the land does not, in and of itself as a matter of law, convert them into personalty. Such conversion occurs only when so intended by the owner or person making the conversion. Such cases are not in point here.

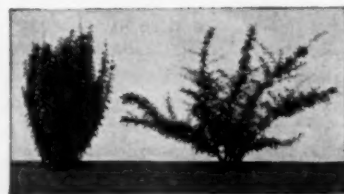
There is an indisputable implication that the object of one engaged in the nursery business in growing trees and shrubs is not for the purpose of producing shade, beautifying his own premises or converting the trees into firewood or lumber, but rather that the stock will be sold to customers. Excluding any question of intention, such trees and shrubs, when severed for the purpose of transporting to other premises would ordinarily, at that stage, be considered as personal property. The problem is then narrowed to whether the true character of such trees and shrubs, when taken from the soil of the nursery with the intent only of transplanting them and making them grow in the customer's land, continues the trees and shrubs as realty, or whether they lose such character and become tangible personalty within the purview of the retailers' occupation tax act. This question, as we said in *Bradley Supply Co. vs. Ames*, 359 Ill. 162, is not whether the transaction "is a sale of personalty as that term is defined at common law, in the decisions of courts or in the uniform sales act, but whether it is a transfer of tangible personal property to the purchaser for use or consumption and not for resale within the meaning of the retailers' occupation tax act."

The trees and shrubs in question are severed from the nursery soil as a neces-

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	Per 10	Per 100	Per 1000	Each	Per 5	Per 100
9 to 12 inches.....	\$1.40	\$11.00	\$95.00	\$0.30	\$1.15	\$4.50
12 to 15 inches.....	1.75	14.00	125.00	.35	1.40	5.75
15 to 18 inches.....	2.20	18.00	160.00	.45	1.75	7.50
1 1/2 to 2 feet.....	2.80	24.00	210.00	.60	2.25	9.75
2 to 2 1/2 feet.....	3.75	33.50		.75	3.00	13.75
						50.00

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Selected uniform plants; bushy and foliated to center; masses of fibrous roots. Finished specimens from 4 inches up, ready for quick shipment. Prices lower, plants larger. Ask for special list.
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sary step precedent to replanting them. When placed in the customer's land a substantial portion of the terms of the contract have been carried out. They are so reset, however, for the use of the customer who, under the terms of the act, is the ultimate user or consumer. At this period the trees and shrubs are no longer the property of appellant. If they do not grow, the nurseryman is obligated to replace them and substitute until he has delivered such as do grow. Title to and ownership thereof have passed to the customer as the owner of the land in which they are planted. The customer has acquired the trees and shrubs for a price agreed to be paid the appellant. True, the customer has paid for service, represented by the labor and skill spent by appellant in improving his premises, but included as an integral part of the transaction is the value of the trees and shrubs transplanted. The service is a mere incident to the sale of the goods. Such value has been included by the seller in fixing the consideration for the sale.

It is insisted by appellant that the legislature alone has power to designate trees and shrubs growing on land as personal property for purposes of taxation, citing several Illinois cases in support of that contention. However, such cases are of no assistance in the decision of the issue here. The legislature has spoken on this subject. By section 12 of the revenue act (State Bar Stat. 1935, chap. 120, p. 2612) it has declared that for the purposes of general taxation "the stock of nurseries, growing or otherwise, in the hands of nurserymen, shall be listed and assessed as merchandise." The trees and shrubs of appellant growing in its nursery are personal property subject to general taxation both under the theory that they are grown for the express purpose of sale and severance from the soil and also by the enactment of said section 12. The transfers involved in the contracts mentioned, on which a tax liability was imposed by the department, are within the terms of the retailers' occupation tax act. The judgment of the superior court of Cook county was correct and is affirmed.

ROSE CULTURE.

[Concluded from page 13.]

can realize who does not grow any roses, but I like it. It would be much easier and much more satisfactory if we could bring the industry to a higher level and could afford to employ men of higher character the year around and pay them a good wage such as others enjoy in other industries. I cannot see why a man who puts in 1,000 to 1,500 buds a day and does other work accordingly is not entitled to such wages as other men enjoy, because it takes as much skill as is required in other lines. To tell the truth, I am proud to be a rose grower, but a good many times I am ashamed when Saturday night comes along and the business cannot afford to give the man the decent wage to which he is entitled. I hope some day we can rectify this matter.

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Ulmus Pumila

Northern Hardy Strain

Good, well shaped and well rooted trees.

	Per 10	Per 100
2 to 2½-in. caliper.....	\$25.00	\$325.00
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3 to 3½-in. caliper.....	35.00	315.00

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Landscape Exhibit Awards

Features of Miniature Gardens at San Francisco Museum Exhibition Are Described in Awards

Thomas D. Church, San Francisco, was awarded first prize at the San Francisco Museum of Art exhibition of landscape architecture, which will close March 22 after a five weeks' showing. Edward A. Williams, Oakland, won the second prize, and Arne Asbjorn Kartwold, Berkeley, third. Special mention was given to a second of Thomas D. Church's entries, to Winfield Scott Wellington, San Francisco, and to Geraldine Knight, San Anselmo. Two of these gardens were pictured in the March 1 issue.

Ballots voted by the public during the first three weeks of the exhibition also gave Thomas D. Church the highest number of votes for his entry to which the judges gave first prize. Second in the public's favor was Marie Harbeck. Third was Winfield Scott Wellington, whose entry also was awarded third prize by the judges.

Of the three classes of competitive exhibits for which prizes were offered, the jury found that entries in the first class only, modern gardens of non-period design, were adequate in number and quality. This class, they stated, exhibited a pleasing variety of problem and solution, with a high standard of excellence in design and presentation. Prizes were withheld in the classes for American historical gardens and garden ornament, due to lack of sufficient entries of merit.

The first prize of \$300 was awarded to Thomas D. Church for a city house and garden, 25-foot flat lot, where the house was planned to extend the living rooms of the house into the garden, making use of new materials to meet the needs of contemporary city life.

In awarding the prize the judges stated: "This project shows unusual imagination in interrelating house and garden so that both are inevitable parts of one composition, and in conceiving the whole as a place for living. The composition is especially good. It achieves by a simple means a considerable variety of interest within the narrow limits of the property and quite independent of what

might occur outside the walls. The showed relation of architectural and garden lines to the lot lines is an unexpected and ingenious technical device for masking the restrictions of a limited space. It bears a useful practical relation to the everyday problem through its simplicity and scale. It is susceptible to a variety of expression as to detail of execution without in any way losing the merit of the basic conception. Although presentation was considered of minor importance in the award, the excellence of both model and accompanying drawings deserves particular notice." Ernest Born was architect, and Carl Bertil Lund, associate.

Edward A. Williams exhibited a city house with dance studio and

garden, receiving second prize of \$150. The garden was planned for easy maintenance and privacy for outdoor living. In the report the judges stated: "This project, although not conspicuously imaginative and although using only elements which have become common property, is none the less clearly conceived and handled with admirable care in all its details. Its peculiar merit lies in its straightforward simplicity of conception and its extreme practicality and point. Barring slight confusion in composition in the corner devoted to barbecue and garage, it is thoroughly and satisfactorily successful as far as it pretends to go, and achieves a pleasing identity with a consistent economy of means. It is orderly, agreeably related to the house and successful in grade and relationships." E. T. Spencer was architect.

The third prize, \$75, was awarded to Arne Asbjorn Kartwold, for a

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18 to 24 ins., clumps	\$1.00	\$8.00
2 to 3 ft., heavy clumps	2.00	15.00
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10 to 12 ins., \$5.00 per 100, \$40.00 per 1000

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RHODODENDRON MAXIMUM or MOUNTAIN LAUREL, or mixed

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HEMLOCK CANADENSIS and CAROLINIANA

Canadensis 8 to 12 ins., \$30.00 per 1000

Caroliniana 8 to 12 ins., 50.00 per 1000

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PARTRIDGE BERRY, LYCOPodium, FERNS, clumps, \$10.00 per 100

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country house and garden. The entire project was designed for subdivision of space for the purpose of clean, fresh, simple and wholesome living. Light, air and sunshine enter in abundance through clear, thin sheets of crystal glass. Surrounding elements united as relative component parts in a scheme for æsthetic living. Miss Kartwold was designer of house and garden.

Special mention was given to a country house and a lake, an abstract project, designed by Thomas D. Church, landscape architect, and William Wilson Wurster, architect.

Winfield Scott Wellington, architect, entered a city house and garden, proposed for a hillside studio residence for an artist. The house, with plaster exterior, is developed on several levels to conform to the sloping site. The garden, with sheltered terrace near the house, gradually ascending levels and dry, sunny play area and outdoor fireplace are adapted to contours of the lot and pleasant outdoor living.

The country house, with garden, on the crest of a bay region hill 3½-acre lot, submitted by Geraldine Knight, landscape architect, and Hervey Park Clarke, architect, is a contemporary house of material native to California, redwood. It is planned to grow naturally from the hillside, command the best views on north, south and southeast, and enjoy an abundance of air and sunshine, screened from prevailing northwest winds. The garden is designed in character with the house to extend the living area outdoors by making terraces and gardens easily accessible and not too extensive for upkeep. Plantation of carob or olive trees above the house gives a sense of order and serves as a windbreak. Additional view is obtained from the garden, house or terrace. Tall slim trees, eucalyptus or poplars, support the curving stairway and contrast strikingly with the horizontal emphasis in house and garden.

The jury consisted of Edward Huntsman-Trout, fellow of American Society of Landscape Architects, Hollywood; E. Leslie Kiler, landscape architect, Palo Alto; Irving Morrow, American Institute of Architects, associate member of American Society of Landscape Architects, and Helen Van Pelt, member of American Society of Landscape Architects.

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Cornus Florida Rubra, **Pink Dogwood**, 2 to 12 ft. **Lilacs**, **Hybrids**, 2 to 6 ft.

Flowering Crabs—**Japanese Maple**—**Viburnums**
Flowering Cherries—special list of rare and unusual plants.

Trade list available—Special prices on quantities. Special quotations on specimen grade material.

KINGSVILLE NURSERIES, INC.
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Losses Through Salesmen

Selection of Salesmen Prime Factor in Agency Business—By Robert C. Wedge, Albert Lea, Minn.

For convenience in discussing "Avoiding Losses Through Salesmen" I have divided the subject into five sections, as follows: (1) Selection of men, (2) kind of contract, (3) dealing with salesmen, (4) handling of orders and (5) making deliveries.

Selection of men is one of the prime factors in organizing a smooth-running and profitable sales organization. The more I see of business generally, the more I am convinced that it is more important for the head of any division to be a good judge of men than to know the details of the business itself.

Judging an applicant solely by replies received from his references has proved quite unreliable. If the check-up must be handled by mail, use the references to secure the names of merchants and other business men who know the applicant, and ask them for their opinions of the applicant based on his dealings with them. If it is at all possible, make personal inquiry in the community in which the applicant lives.

Choosing Individual.

Do not look for men who are out of work, who have previously sold nursery stock or who are employed by some other nursery firm. There are good men among such individuals, but you will get a larger percentage of men who will be useful in your organization by seeking men in other lines of work, men who think they can better themselves by joining your organization.

In most cases it is not safe to let a man who is financially embarrassed make collections. He may not be intentionally dishonest, but, under pressure, he may apply some of your money on his debts.

An ideal man for a nursery salesman is middle-aged, intelligent, honest, industrious and of pleasing personality. I have had men who seemed to lack all of these attributes and still made a success of selling nursery stock. How they did it I do not know, but, just the same, I should rather not have to deal with them.

Of course, ideal men are few. If it were possible to fill the sales organiza-

tion with men possessing all the desirable qualities, the sales manager's problems would be at an end.

It may be felt that the kind of contract does not enter into the matter of avoiding losses, but, from my experience, I find that the right kind of a contract is important. I am not going to discuss contracts any more than to say that it is just as important, if not more important, that our contracts be simple and understandable than that they cover all points of the law. Do not try to add anything to make the contract more interesting. Many of

AMERICAN NURSERYMAN

the contracts used by nurserymen are unintelligible to the average man and are bound to cause misunderstandings and make trouble in settling claims.

Dealing with Salesmen.

All dealings with salesmen, whether written or personal, should be prompt, courteous and business-like on your part, and you should expect the same from your men. Have definite rules and make no concessions. Nothing cheapens the nurseryman in the eyes of salesmen or customers more than giving presents, cutting prices or changing terms just to secure an order. Any concession on your part will tend to make the salesman careless.

Acknowledgment of orders is not only a safeguard against padded and counterfeit orders, but makes both customers and salesmen feel that they are

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Grapevines, Currants, Gooseberries, Blackberries and Raspberries

A complete stock in all standard varieties including the new

FREDONIA, ONTARIO and PORTLAND GRAPES.

5000 Extra fine 1-year No. 1 Delaware

5000 Extra fine 1-year No. 1 Catawba

Send your want list for quotations.

Foster Nursery Company, Inc.

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STRAWBERRIES

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800,000 of the finest grapevines we ever grew await your order. All the leading varieties in 1 and 2-year size. Get our price list before placing order.

E. W. TOWNSEND & SONS NURSERIES

Salisbury, Maryland

Oregon-grown ROSEBUSHES

Send
for
List

PETERSON & DERING, Inc.
Wholesale Rose Growers
SCAPPOOSE, OREGON

New Rose TEXAS CENTENNIAL (Red Hoover)

Plant Patent No. 162

Ask for color illustration
and prices.

Also for our general list
of roses.

DIXIE ROSE NURSERY
Tyler, Texas

HARDY ROSES and SHRUBS

priced at

St. Louis, Chicago and
Ohio storages

Write for list now ready

VERHALEN NURSERY CO.
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Burr's Quality Forcing Roses

Heavy branched, well rooted, excellent
quality. Large list of varieties.

\$3.00 per 10, \$25.00 per 100

C. R. BURR & CO., INC.

Dept. A Manchester, Conn.

ROSES

Hardy, two year, field-grown budded
stock. Finest stock ever grown.

Write for List.

Lang Rose Nurseries

Box 702-A, Tyler, Texas

ROSES

Many fine varieties, 2-year, budded,
field-grown, \$7.00 per 100

Send for list

Antigonon Leptopus, Queen's Crown
1-year, 3c; 2-year, 5c; 3-year, extra
strong, 10c.
LOCKE POTEET NURSERY, Poteet, Tex.

dealing with a concern that is looking
after their interests as well as its own.
Acknowledgments also give customers
the chance to complain of incorrect
prices, varieties, sizes, etc., and permit
such matters to be ironed out before
deliveries are made.

No one realizes the difficulty of get-
ting orders out early in the spring bet-
ter than I do. So far as weather con-
ditions are concerned, a nurseryman
doing a large volume of business in a
comparatively small territory could
and should ship everything on the
same day. Of course, this is impos-
sible, but if shipments drag out too
late in the season, the salesmen will
have trouble with deliveries and col-
lections.

Acknowledgment of orders, good
grades of stock, careful packing and
prompt and early shipments are of
great help to the salesmen and give
them a better chance to make collec-
tions. The better the salesmen's col-
lections, the more quickly you get
your money.

Making Deliveries.

It is unnecessary to go into the sub-
ject of deliveries to any extent, for
each firm has its own way of handling
them, but each salesman or delivery
man should know exactly what is ex-
pected of him. It is suggested that
instructions include specific directions
to collect balance due before turning
stock over to the customer and to send
in collections promptly.

It is not always possible, but is de-
sirable, to get the whole sales force to-
gether at least once a year. Such a
meeting offers the best opportunity to
reiterate and emphasize instructions,
to discuss problems and to promote
understanding of and enthusiasm for
nursery work.

To sum up our discussion, select
the right sort of men, have a clear
understanding, be businesslike in your
dealings, furnish good stock properly
packed, do not delay shipments too
long, and you will not have many
losses through salesmen.

COMMERCIAL fertilizers in pel-
leted form rather than in the finely
pulverized form commonly encoun-
tered are asserted to have distinct ad-
vantages from the standpoint of ease
of application and of the utilization
of the plant food by the growing
crop. They are drilled more easily
and are less rapidly dissolved.

"J & P"

ROSE NOVELTIES

ANNOUNCEMENT

Jackson & Perkins Patented Roses
may now be secured from a group
of selected growers throughout the
nation. The following firms have
been licensed to rewholesale J. & P.

Patented Roses:

Adair Nur., Inc.,	Springfield, Mass.
Armstrong Nur.,	Ontario, Calif.
Babbink & Atkins,	Rutherford, N. J.
Brown Bros. Co.,	Rochester, N. Y.
Brown Floral Co.,	Salt Lake City, Utah
Buntings' Nur.,	Selbyville, Del.
Burr, C. R. & Co.,	Manchester, Conn.
Cole Nursery Co.,	Painesville, Ohio
Conard-Pyle Co.,	West Grove, Penna.
Dixie Rose Nur. Co.,	Tyler, Texas
Dreer, Henry A., Inc.,	Riverton, N. J.
Economy Nur. Co.,	Little Silver, N. J.
Germis Seed & Plant Co.,	Los Angeles, Calif.
Henderson's Nur.,	Athens, Texas
Howard Rose Co.,	Hemet, Calif.
Klyn, Gerard K.,	Mentor, Ohio
Mount Arber Nur.,	Shenandoah, Ia.
Paramount Nur.,	West Grove, Penna.
Rosemont Nur.,	Tyler, Texas
Ruehl-Wheeler Co.,	San Jose, Calif.
Shenandoah Nur.,	Shenandoah, Ia.
Smith, W. & T. Co.,	Geneva, N. Y.
Somerset Rose Nur.,	New Brunswick, N. J.
Starr & Harrison Co.,	Painesville, Ohio
Vaughan's Nursery,	Western Springs, Ill.
Wilson, C. E. & Co.,	Manchester, Conn.
Winona Nursery Co.,	Winona, Ont., Can.

JACKSON & PERKINS CO.
Newark, New York State

20,000 **ELMS**, American, Vase,
Moline, up to 4 inches,
transplanted.

4,000 **MAPLE**, Norway, up to 2½
inches, transplanted.

2,000 **WILLOW**, Thurlow, 8 to 10
ft. and 10 to 12 ft.

10,000 **SPIRÆA**, Vanhouttei, 3 to
4 ft. and 4 to 5 ft.

Send for list on many other items.

C. M. HOBBS & SONS, Inc.
Bridgeport, Indiana

Largest Nursery in Indiana. Established
1875.

Princeton Nurseries
of PRINCETON, N. J.

**SUPERIOR
Hardy Ornamentals**

LINING-OUT STOCK

Connecticut Valley Grown

Seedlings - Rooted Cuttings
Evergreen and Deciduous

Write for List

C. E. WILSON & CO., INC.
Manchester, Connecticut

Meetings of the Trade

MARYLAND MEETING.

The Maryland Nurserymen's Association held its annual meeting February 22 at College Park, electing the following officers for the ensuing year: President, Frank Primrose; vice-president, Jesse E. Stoner; secretary-treasurer, Julian J. Chisolm II. On the executive committee, to serve until 1939, were elected M. G. Coplen and Henry J. Hohman, the latter the retiring president.

After discussion, such matters as the A. A. N. proposal for a Washington representative, credit information, and a motion picture of shade trees for street and highway planting, were turned over to the executive committee for action.

It was voted to hold the summer meeting at the field station of the United States Department of Agriculture at Beltonville, provided the station authorities concur.

The meeting followed the annual short course for nurserymen held by the University of Maryland, which unfortunately drew only a small attendance. The speakers were Dr. L. C. Chadwick, on propagation; Dr. Richard P. White, on shade trees and on soil conditions for ericaceous plants; John Monteith, Jr., on lawn construction and grasses, and Russell M. Bettes, on cost accounting.

OREGON LANDSCAPE MEN MEET.

The Oregon Landscape Gardeners' Association held a banquet and meeting at the Nortonia hotel, Portland, February 26. Theodore Lorenz, Portland, was in charge of arrangements. An interchange of ideas proved valuable and interesting.

Prof. Karl Lorenz, of Concordia College, gave the principal talk of the evening on the subject, "The Sorrows of the Amateur and of the Professional Gardener." John Bacher, of the Swiss Floral Co., gave an illustrated lecture on South African and other interesting flowers which may be used in Portland gardens. Karl Henriksen, publicity director, spoke on newspaper advertising.

The unusual amount of snow in this section during February was said to have adversely affected landscaping business.

Special honor was accorded William Ehlen because he was one of the first landscape gardeners to engage in this work in Portland. His son, William Ehlen, Jr., is secretary-treasurer of the Oregon Landscape Gardeners' Association. James French is president, and Robert Isler, vice-president.

SOUTHERN CALIFORNIA GROUP.

Members of the Southern California Horticultural Institute held a dinner meeting February 25 in Los Angeles, Cal., at the Mayfair hotel, at which the guest speaker was Ralph D. Cornell, fellow of the American Society of Landscape Architects and president of the Pacific coast chapter of that organization. Mr. Cornell has a landscape degree from Harvard University and for eighteen years has held the chair of landscaping at Pomona College. He has

also been instructor in the University of Hawaii, at Honolulu. The subject of his lecture was "Horticulture in the Landscape Profession."

Since this was the first meeting of the institute since the death of J. D. Meriwether, chief of the bureau of nursery service, it was deemed fitting that a number of members who knew him best make a few remarks in memoriam, and Henry Kruckeberg, Los Angeles, gave an inspiring eulogy.

The following directors were chosen for the ensuing year:

J. A. Armstrong, of the Armstrong Nurseries, Ontario; M. Leslie Marshall, of the Edward H. Rust Nurseries, Pasadena; John C. Bodger, of Bodger Seeds, Ltd., El Monte; Einar Matson, of Moore's Nursery, Inglewood; W. B. Early, of the Aggeler & Musser Seed Co., Los Angeles; Murray C. McNeil, of Swift & Co., Los Angeles; Hugh Evans, of the Evans & Reeves Nurseries; Manfred Meyberg, of the Germain Seed & Plant Co., Los Angeles; Carl Eagenburger, of Eagenburger's Specimen Plant Gardens, West Los Angeles; A. Pastor, of the A. Pastor Nursery, Inglewood; Paul J. Howard, of Paul J. Howard's Horticultural Establishment; H. J. Scherer, of the L. B. Merrick Nurseries,

AMERICAN NURSERYMAN

Whittier; Edward E. Spence, of the Beverly Hills Nursery, Beverly Hills; Lovell Swisher, Jr., of Hillside Gardens, Hollywood; Roy F. Wilcox, of Roy F. Wilcox & Co., Montebello.

SOUTHWESTERN OHIO COURSE.

Much interest in the short courses held in Ohio was again manifested by nurserymen and landscape gardeners when about fifty turned out and stayed through the 2-day session held at the Hotel Alma, Cincinnati, February 24 and 25. This school was sponsored by the department of horticulture of Ohio State University, the agricultural extension service and the Greater Cincinnati Nurserymen's Association. Robert Dubois, president of this organization, ably conducted the meetings, aided by Elmer Heitmeyer, vice-president, and George Kern as acting secretary in the absence of E. A. Smith.

A varied program, including timely discussions on growth-promoting substances, soils, fertilizers, pests, construction pointers, tree moving and maintenance, lawns, irrigation and new herbaceous and woody plant materials kept the group interested throughout the two days. Abstracts of some of these talks will be given in later issues.

Two most enjoyable evening sessions

SHADE TREES

Norway Maple	Per 10	Per 100
8 to 10 ft.	\$7.50	\$65.00
10 to 12 ft.	8.50	85.00
1 1/2 to 2-in. caliper	12.50	110.00
2 to 2 1/2-in. caliper	18.00	165.00
2 1/2 to 3-in. caliper	25.00	
3 to 4-in. caliper	35.00	

Silver Maple
50 per cent less than Norway

Schwedler Maple	
8 to 10 ft.	12.50
10 to 12 ft.	15.00
1 1/2 to 2-in. caliper	20.00
2 to 2 1/2-in. caliper	25.00

American Elm	
8 to 10 ft.	5.00
10 to 12 ft.	6.50
1 1/2 to 2-in. caliper	8.50
2 to 2 1/2-in. caliper	12.50

Catalpa Bungei	
4 to 5 ft. 3-year	5.00
5 to 6 ft. 3-year	6.00
6 to 7 ft. 3-year	7.50

Lombardy Poplar	
4 to 6 ft.	1.50
6 to 8 ft.	2.00
8 to 10 ft.	3.00
10 to 12 ft.	4.00
1 1/2 to 2-in. caliper	6.50

Japanese Flowering Cherry	
3 to 4 ft.	7.50
4 to 6 ft.	8.50

Weeping Cherry	
5 to 6-ft. stems	13.50

Write for quotations on other sizes and varieties of Nursery Stock, including an extensive line of Evergreens, Shrubs, Perennials and Fruit Trees.

Waynesboro Nurseries, Inc.
WAYNESBORO, VA.

SELLING OUT

On account of ill health. All my Nursery or just items you want.

Rhododendrons, Catalpa and Carolinianum.

Asaleas, 7 varieties.

Hemlocks, 18 ins. up to 8 ft.


White Pines, 7 and 8 ft.

Balsam, 4 to 8 ft.

White Spruce, Norway Spruce and Colorado Blue Spruce.

I have only a few hundred of each. Three times transplanted, all NURSERY GROWN. Finest specimen plants, a wonderful bargain.

Mrs. J. H. Von Canon
Banners Elk, N. C.



Twenty Million Strawberry Plants
Complete list of all the new varieties.
We furnish packing out service for nurserymen and seedsmen.
Write for wholesale price list.

E. W. TOWNSEND & SONS NURSERIES
Salisbury, Maryland

BLUEBERRIES

Nine varieties

1-year-old Rooted Cuttings

2-year-old Rooted Cuttings

Also Cutting Wood

J. R. SPELMAN CO., Growers
South Haven, Mich.

STRAWBERRY PLANTS — GRAPEVINES

We have a good supply of Premier, Dorsett and Dunlap Strawberry Plants. Concord, Niagara, Worden, Campbell's Early and Delaware Grapes in 1 and 2-year and light lining-out stock. St. Regis Raspberries and No. 2 Eldorado Blackberry root cuttings. Let us quote you.

Krieger's Wholesale Nursery
Bridgman, Michigan

HOLLY BLUEBERRIES FRANKLINIAS MAGNOLIA

Joseph J. White, Inc.
New Lisbon, N. J.

Evergreens, Broad-leaved Evergreens,
Deciduous and Ornamental Trees,
Flowering Shrubs, Barberry, Privet,
Hardy Perennials and Rock Plants --
Fruit Trees and Small Fruits --
Lining-out Stock.

PEACH TREES

A fine general line, including a
large supply of Elberta, Golden
Jubilee and South Haven.

Write for quotations and our Wholesale Trade
List.

The WESTMINSTER NURSERY
Established 1893 Westminster, Maryland

LINING-OUT STOCK

First-class line in every respect.

Here are a few items selected from the list we
have to offer: Per 100
Hydrangea A. G., fine divisions..... \$3.00
Hydrangea P. G., 6 to 15 ins..... 4.00
Malvues, 2-year, from select reds..... 2.00
Spiraea Vanhouttei, 12 to 18 ins..... 2.00
Boston Ivy, fine seedlings..... 2.50
American Bittersweet, fine plants..... 3.00

Bench grafts, very nice stock.

Flowering Crabs, on whole roots..... 3.00
Bechtel's, double, pink
Floribunda, single, carmine
Weidwizkyana, red flowers, fruit and foliage
French Lilacs, on whole private roots..... \$5.00
Hugo Koster, reddish purple; Mms. Lagrasy,
single, white.

Hardwood Cuttings—prime wood, 8 ins. long
Beauty Bush, Kolkwitzia Amabilis, 50s per 100,
\$4.00 per 1000
Spiraea Froebelii, 40s per 100, \$3.00 per 1000
Spiraea Thunbergii, 40s per 100, \$3.00 per 1000

HARMON NURSERY Prospect, Ohio

PEACH PITS

OUR PITS COMPARE FAVORABLY
WITH THE BEST

HOGANSVILLE NURSERIES

Hogansville, Georgia

PEACH TREES

Flex Crenata
Maples Pin Oaks
Quality Line Priced to Sell

HOWARD-HICKORY CO.
Hickory, N. C.



EVERGREENS--SHADE TREES

PRICED LOW

You can also make
a good buy on

SHRUBS AND FRUIT TREES

TRY US

Maloney Bros. Nursery Co.
Dansville, New York

SHADE TREES GRAPEVINES
SHRUBS BLACKBERRIES

WILLOWBEND NURSERY
PERRY, OHIO

Sharon Apple Scions

\$5.00 per 100. Standard.

Jensen's Nursery, Ames, Iowa

were held. After a fine dinner the first evening Carl R. Bibbee, Hamilton county agricultural agent, gave an interesting discussion of the relationship between the nurserymen and the agricultural conservation program. This was followed by a talk by John W. Tait, superintendent of the Cincinnati park system, which is one of the best in the country. The second evening, Prof. M. E. Bottomley presented one of his able discussions on "Difficult and Unusual Landscape Treatments," stressing the proper development of uneven lots. Of local and timely interest was the talk by Tam Deering, director of the Cincinnati recreation commission, on "Some Observations on the Ohio River Flood." Among the various proposals that have been made for river front development is its use for recreation and parkway planting areas.

In the opinion of everyone, the school this year was said to be the most interesting and informative one ever held.

FIRST COLLUSIVE BID CASE.

Irving Glaser, 609 Rutland road, Brooklyn, N. Y., was found guilty of collusive bidding on a government contract by a jury in the federal court there, February 19, before Judge Matthew T. Abruzzo. The indictment charged that he and others conspired to turn in four bids, in varying amounts, to supply the Treasury Department with 150,000 square feet of sod for city W. P. A. park projects. The conviction was the first ever obtained for collusive bidding, Special Assistant Attorney General Fred A. Ironside, in charge of the prosecution, said.

The lowest of the bids turned in was in the name of the Aberdeen Landscape & Nursery Co., 60 East Forty-second street, Manhattan, of which Mr. Glaser was a partner. The concern previously had received over \$100,000 in sod contracts from the government.

Albert Ergas, 67 Morton street, another partner in the firm, pleaded guilty during the course of Mr. Glaser's trial before Judge Abruzzo. William Probeck, 70-17 Seventy-second place, Glendale, also named in the indictment, pleaded guilty at the same time.

The jury acquitted Joseph Isen, 8532 Fifty-sixth avenue, Elmhurst, another partner in the nursery company.

JAP BEETLE BAN REVISED.

A revision of the Japanese beetle quarantine regulations effective March 1, 1937, was announced last week by the Secretary of Agriculture.

The revision adds the cities of Cleveland, Columbus and Toledo; the entire counties of Columbiana and Mahoning, and parts of the counties of Carroll, Jefferson and Stark, in the state of Ohio, to the regulated area. This action is considered necessary because of the establishment of the Japanese beetle in these areas. Additional infested territory in Maine, Maryland, New York, Vermont, Virginia and West Virginia also is added to the previously regulated areas in these states.

Some outlying areas where Japanese beetle infestations have been found are not included because of assurance from the states concerned that adequate measures will be taken to prevent the spread of the pest from these areas.

GRAFTED HYBRID RHODODENDRONS

Exceptionally fine stock for immediate delivery. Send for list, which completely describes and prices the wide variety we offer.

MAGNOLIAS

A remarkable collection of twenty varieties, in all colors and sizes. Splendid specimen stock for landscape plantings.

PIERIS JAPONICA

(Japanese Andromeda)

Our stock of this worth-while, broad-leaved evergreen is fine. Use more of it.

BOBBINK & ATKINS

Rutherford, N. J.

Our wholesale list will be sent on your request. We will gladly quote on special requirements.

BROAD-LEAVED EVERGREENS

From the Highlands of the Carolinas

Gardens of the Blue Ridge are Headquarters for Hardy Native American Plants. Our supply in both nursery-grown and collected woods-grown is sufficient to supply the demand.

Azaleas, Leucothoes, Kalmia, Rhododendrons, Andromedas, Orchids, Vines, Climbers, Cuscutas, Ferns, Liliums, Trilliums, Dicotyles, and hundreds of others of tried and tested merit are grown and carried in large supply. Our 45 years' practical experience, quality, quantity, variety, low price and unequalled organization are at your command. Complete catalogue and Surplus list will be sent on request.

E. C. ROBBINS

Gardens of the Blue Ridge
Ashford, North Carolina

CEDARCROFT GARDENS

Cookeville, Tennessee

We are prepared to contract for the growing of Perennials, Bulbs, Shrubs, Vines, Hedge Plants and Ground Covers. We have the experience as propagators and growers, and good, rich farm land. Further information upon application.

DAPHNE CNEORUM

(Garland Flower)

9 to 12 ins., 12 to 15 ins. and
larger sizes

Write for prices

EDEN NURSERIES
Eden, New York

PERENNIALS

Per 100
Canterbury Bells, blue, rose, white: 1-year field-grown seedlings \$4.00
Digitalis (Foxglove), rose, purple, white and Shirley Hybrids: 1-year, field-grown seedlings 4.00
Phlox B. Comte, amaranth purple: 1-year... 5.00
Phlox Mrs. Jenkins, white: 1-year..... 5.00
Cash.

H. A. MEHAFFEY R. 1, Painesville, O.

EXTRA-LARGE FIELD-GROWN PLANTS

Iberis Sempervirens, \$8.00 per 100, \$70.00 per 1000.
Viola Jersey Gem, \$8.00 per 100, \$70.00 per 1000.
25 plants at 100 rate, 250 at 1000 rate.
Send for complete catalogue of field-grown perennials.

PITZONKA'S PANSY FARM, Bristol, Pa.

Scientists' Reports

Topics of Interest to Trade Discussed at the Recent Meeting of American Society for Horticultural Science

Among numerous horticultural topics on the program, fertilizing nursery stock was given an important place at the annual meeting of the American Society for Horticultural Science, held at the year-end at Atlantic City. Scientists from the leading universities and colleges reported on experimental work in horticulture. Some valuable suggestions appeared in these reports.

The following summary was given by L. C. Chadwick, in reference to fertilization of shade trees in the nursery: (1) Ample moisture is necessary for a favorable response of small trees to fertilizer applications. (2) In general, fall applications appear more beneficial than those made in the spring. (3) A complete fertilizer high in nitrogen or a mixture of ammonium sulphate and superphosphate is best of the sources tested. (4) Applications of ammonium sulphate alone have given little stimulation. (5) Potash does not seem necessary in this particular soil type to date. (6) Ample moisture seems more important for stimulating growth of young trees in good soil than additional applications of fertilizers.

"Fertilizers for Evergreen Nursery Stock" was reported by P. C. Marth, U. S. D. A., Beltsville, Md. In considering the effects of the various fertilizer treatments on arbor-vite, it was found that 400 pounds of nitrate of soda per acre were too heavy; 200 pounds per acre gave much better results. Potassium gave substantial increase in growth, especially when used with phosphorus. As for the three nitrogen carriers used, sodium nitrate, ammonium sulphate and Urea, the results do not indicate any advantage of one over another. It was found that the inorganic fertilizers when properly applied may be advantageously substituted for manure.

Applications of the same fertilizers on Irish juniper produced somewhat different responses, indicating a differential behavior of the two species. Sulphate of ammonia and Urea gave better growth than nitrate of soda when used in equivalent amounts. Cow manure, in the case of Irish juniper, was shown to be somewhat better than any other treatment. The high quality of the manure used and the fact that forty tons were applied per acre, over the 2-year period, would probably make this treatment too expensive for the nurseryman.

Some of the prejudice existing against the use of mineral fertilizers for evergreens no doubt arises from using too heavy applications. With deciduous trees, an excess application of sodium nitrate readily shows in foliage injury. With conifers, however, injury is more insidious, in that severe stunting of the plant may occur without the familiar foliage evidence.

L. M. Hutchins, Fort Valley, Ga., presented some interesting evidence of nematode resistance in peach rootstocks. He found that the Shalil understock is resistant to nematodes on all soils, whereas a number of other

understocks are found to resist nematodes in heavy soils, but are susceptible in light soils.

"The Use of Growth Substances for Propagating Plants from Cuttings," given by P. W. Zimmerman, of the Boyce Thompson Institute for Plant Research, Yonkers, N. Y., presented the group with new methods in propagation. It was stated that in indolebutyric acid was found the best root-promoting substance of all those tested. Indolebutyric acid used at the rate of one to five milligrams per 100 cubic centimeters of water and allowing the cuttings to soak from four to forty-eight hours (depending on the hardness) resulted in faster rooting. Flowering crab, roses, boxwood, hibiscus and Japanese maple were rooted much quicker with root-promoting substances.

Dr. F. E. Gardner, U. S. D. A., Beltsville, Md., has rooted apple cuttings successfully after placing tape around the young growth in the spring and allowing it to remain until fall, after which the cutting is placed directly in the soil. He has been able to root every variety tried, but some root much easier than others. This same treatment has been tried with success on pear and lilac, but failed to root sweet and sour cherries. Etiolation of the stem was also accomplished with the use of black paper bags placed over the new shoot early in spring.

Rhododendrons by Cuttings.

"Propagation of Rhododendron Cunningham's White by Cuttings" was presented by L. C. Chadwick, Ohio State University. Among the problems confronting the rhododendron grower is that of selecting a hardy understock which is tolerant of alkaline conditions. The use of such an understock for some of the better hybrids would extend the range of rhododendron culture and greatly increase the demand

for these plants. Cunningham's White is known to be tolerant to alkaline conditions. Succulent and possibly semimature wood taken in early fall were found to be the most favorable types of cuttings. Sixty per cent of the succulent cuttings were rooted, as compared with thirty-five per cent when hardwood cuttings were used. A mixture of half sand and half German peat provided a more satisfactory rooting medium than German peat moss. This superiority was not only shown in the percentage of cuttings rooted, but also by the ease with which removal of the cuttings from the rooting medium was made. Acid sand should be used in propagating the rhododendron. The use of potassium permanganate on the rooting medium did not show any beneficial results, but treating the cuttings with this chemical may be of some advantage, especially with mature wood cuttings.

"Influence on Grass Growth of Various Proportions of Peat in Lawn Soils" was presented by L. S. Longley, University of Minnesota, St. Paul, Minn. The application of one, two or four inches of peat gave a more luxuriant growth of turf after the effects of an initial depression of germination because of dryness were overcome. Whether this was due to a better physical condition of soil or to the release of fertilizing elements, particularly nitrogen in the peat, was not indicated. However, when as much as four inches were applied and spaded in as a garden is ordinarily spaded, the results were a soil so soft and spongy

PURE KENTUCKY BLUE GRASS LAWN SEED

Our 1936 crop was short, but very bright seed that will satisfy your particular customers. Instruction folders and 2-color posters in the large size bags.

10 lbs., \$2.50 net; 50 lbs., \$10.75, less 3 per cent; 100 lbs., \$20.00, less 3 per cent. Cash.

All prices f.o.b. Lexington, subject change and unsold.

WALNUT LAWN FARM

Route 8 F Lexington, Ky.

HARDY AZALEAS

Kaempferi, Poukhanensis, Schlippenbachii, Microphylla, Vaseyi, Enkianthus Camp., Juniperus Rigida, Taxodium Dist., White Spruce, Norway Spruce, Austrian, Limber Pine, Specimen Years, 12 to 15-foot spread.

Send Want List

BRIMFIELD GARDENS NURSERY

245 Brimfield St., WETHERSFIELD, CONN.

Tree Peonies and all other types

New Hybrid Lilacs, Evergreens and other Specialties.

The Cottage Gardens
Lansing, Mich.

NURSERY TOOLS

Nursery Spades, Kunde Knives and Pruning Shears, Budding and Grafting Supplies. Free 32-page Catalogue.

A. M. LEONARD & SON

Piqua - Ohio

Up-to-date information on germinating TREE & SHRUB SEEDS

Dr. L. C. Chadwick's articles on "Improved Practices in Propagation by Seed," reprinted from American Nurseryman.

Price 25c (postpaid)

HERBST BROTHERS

92 Warren St. New York, N. Y.

Write for free Tree and Shrub Seed Catalogue containing flower and vegetable seeds attractively priced.

IF YOU SOW SEED

You need our catalogue for reference and purchases. Buy your seed from an experienced perennial grower.

The Joseph F. Martin Co.

Box 189N Painesville, Ohio

that it did not make a solid turf. This indicates that the application should be less than four inches, probably between two and three inches. No appreciable difference was noticed between the various sorts of peat. What little difference was apparent seemed to be in favor of the local peats.

CATALOGUES RECEIVED.

[In writing for a copy of any of the catalogues reviewed below, please mention that you saw it described in *The American Nurseryman*.]

Brown Bros. Co., Rochester, N. Y.—Well printed and filled with fine half-tones, "Brown's Garden Book" abounds in landscaping and garden plans for the average home. Shrubs, perennial plants, rock plants, peonies, phlox, bulbous and tuberous stock, dahlias, vines, roses, hedges, evergreens, shade trees, fruit trees and small fruits are all listed and pictured. There are lists of material for specific uses, and there is an index.

Smith's Bulb Gardens, Clarkston, Wash.—Illustrated booklet, "Smith's Garden Book for Flower Lovers—1937," presents roses, hardy shrubs and evergreens, ornamental trees, French hybrid lilacs and various annual and perennial plants, plus bulbous material. A "grab bag" lists forty-three lots of stock that may be had for \$1 each.

American Forestry Co., Pombine, Wis.—Booklet of eight pages and covers printed in green offering forest and ornamental trees and shrubs, deciduous and evergreen; fruit trees and small fruits, rocky plants, perennials, roses, peonies and hardy ferns. The nursery stock includes transplants, seedlings and cuttings.

The Joseph F. Martin Co., Painesville, O.—Wholesale spring catalogue of hardy perennial plants. The first list is of new and unusual varieties, followed by two kinds of gypsophila and a number of new and unusual oriental poppies. Pictured in a vase is a new double daisy, White Swan. Reproduced among the lists of the more ordinary perennials are photographs of flowers and plantings. Peonies, irises, sedums, a few shrubs and some field-grown roses are also handled.

Earl Ferris Nursery, Hampton, Ia.—Of tabloid size, with forty pages, "Earl Ferris Planting Guide" has a cover showing three generations of the Ferris family in colors, in a beautiful garden. Fruit trees, small fruits, conifers, shade trees, shrubs, perennial plants, flower seeds, peonies, lily and gladiolus bulbs and roses are all presented, much of the material being illustrated. There are several planting plans and calendars, with general cultural notes on the various classes of stock.

The Pontiac Nursery Co., Romeo, Mich.—Counting covers, the Pontiac annual wholesale trade list for 1937, No. 5, has thirty-two pages, enumerating fruit trees, evergreen trees and shrubs, ornamental trees and shrubs, vines, roses and perennials, the last-mentioned including the Korean hybrid chrysanthemums. The booklet is illustrated, a photograph of the colonial home used as general offices by the company being reproduced on the front cover.

Kallman's Garden Nursery, Santa Barbara, Cal.—"Everything for the Garden" is imprinted on the cover of the Kallman catalogue below a photograph of part of the firm's establishment. With its lists of roses, bulbous material, lawn grasses, flowering fruit trees, fruits and chrysanthemum plants and offers of flower and vegetable seeds, the booklet apparently bears out its boast, containing also planting calendars.

Forest Nursery Co., McMinnville, Tenn.—"Bulletin No. 2," a fruit and ornamental list, presenting apples, plums and peaches, flowering shrubs, forest and shade trees, vines and creepers, and evergreens, broad-leaved and coniferous.

Lamb's Nursery Co., Spokane, Wash.—A catalogue of thirty-two pages and cover offering perennials termed "new and rare plants." The list is alphabetized and gives the pronunciation of practically every genus. Included are plants for rockeries and also some evergreens, shrubs and roses. The back cover is a glossary of botanical terms.

Shenandoah Nurseries, Shenandoah, Ia.—"Bulletin No. One," with grade counts, a booklet printed on spring-green paper, offers nursery stock of all sorts—fruit, ornamental, evergreen—roses, perennials, spring bulbs, dahlias, peonies and nursery supplies. There is one illustration—a planting of Moerhelm blue spruce.

Krider Nurseries, Inc., Middlebury, Ind.—"Glories of the Garden" contains forty-eight pages, many of them in color. Roses, perennial plants, with rocky stock; gladiolus and other bulbous material; vines, hedges, flowering shrubs, shade trees, evergreens, peonies, berry stock and fruit trees are listed, much of the material being pictured. There is an index.

Le-Mac Nurseries, Hampton, Va.—Pocket-size wholesale price list, spring, 1937, of azaleas, other broad-leaved evergreens, deciduous shrubs and lining-out stock. Specialties are Japanese and Kurume azaleas.

Kaylor Nurseries, Blaine, Wash.—"Fads, Facts, Fashions for Flower Fans" is a booklet of sixteen pages offering gladioli chiefly, but also dahlias, phloxes, azaleas and various perennial plants, not omitting hardy chrysanthemums; peonies, and shrubs, the last-named called "Necessary Ornamentals."

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NURSERY STOCK IMPORTS.

The division of foreign plant quarantines of the U. S. D. A. has announced the importations of fruit and nut cuttings and scions and of rose stocks for the fiscal year of 1936. The importations as recorded in the accompanying table were entered under permit, subject to inspection and treatment, when necessary, under regulation 3 of quarantine No. 37. They are listed by country of origin. The figures indicate the number of propagating units.

In all of the imports, the largest quantity of any one item was of rose stocks, as usual. The Netherlands led the list with 6,290,137, England being next with 1,109,304. Not listed in the table are 10 passiflora stocks from Trinidad, and 7 peach stocks from Russia, the latter being the smallest total quantity reported. Also not shown, but included in the report, are the following countries supplying grape stocks: Austria, 140; Belgium, 52; France, 16; Hungary, 522; Portugal, 3, and Roumania, 14. These, combined with the 7 from Yugoslavia, make a total of 754 grape stocks. The 3 grape stocks from Portugal were the smallest individual quantity reported.

Imports of tree seeds are also reported under regulation 3, quarantine 37. Ornamentals represented the largest single class in this material, with 46,094 pounds, the largest exporter being Czechoslovakia, which sent 14,234 pounds. Next in line were Canada, with 12,360 pounds, and Germany, with 5,586 pounds. Nut and palm seeds held second place, totaling 30,903 pounds, Australia furnishing 28,448 against the next nearest quantity of 870, belonging to Japan. Next, numerically, were cherry seeds—6,453 pounds—followed by apple—6,298. Lowest in the list were apricot seeds, of which there were only 2 pounds.

Listed alphabetically, other seed groups were elm, 585 pounds; pear, 2,075; persimmon, 166; plum, 1,218; quince, 53; rose, 898, and miscellaneous, 29. The total importation of seeds was 94,774 pounds. The largest single exporter of seeds was Australia—28,466—with her exports of nut and palm seeds. Czechoslovakia was next, with 14,419, chiefly because of her exports of ornamental seeds, as also in the case of Canada, with 12,790.

FOR WASHINGTON NURSERIES.

A bill has been introduced in the Washington legislature by the house forestry providing for creation of a reforestation fund of \$50,000 for purchase of supplies and equipment and maintenance of nurseries for growing forest trees to be planted on state-owned lands. It has passed the house by a vote of 42 to 14.

FINE PENNSYLVANIAN \$700.

Fines aggregating \$700 were assessed against James F. Krewson, Cheltenham, Pa., in magistrate court at Norristown, March 2.

He was fined \$10 each on sixty-eight counts of making deliveries of trees with no valid certification of each delivery. He was fined \$20 on one count of making an alleged false declaration of acreage in his application to the state.

The fines were based on charges pre-

IMPORTATIONS OF FRUIT, ROSE AND NUT STOCKS, CUTTINGS AND SCIONS.

Kind of material	Canada	England	Germany	Italy	Netherlands	Northern Ireland	Poland	Union of Soviet Socialist Republics	Yugoslavia	Total
Cuttings and scions:										
Apple	1,238	90	292	...	...	...	197	...	...	1,632
Apricot	...	...	16	...	...	...	...	14	...	24
Cherry	9	...	...	10	...	...	150	83	...	252
Fig	...	...	...	450	...	...	...	...	365	815
Grape	...	...	...	...	...	...	...	...	7	7
Nut	333	...	...	13	...	...	...	...	...	346
Pear	16	...	102	...	...	...	119	...	...	237
Plum	49	...	...	...	...	...	50	44	...	143
Rose	...	1,109,304	10,000	...	6,290,137	48,000	...	10	...	7,452,441
Total	1,540	1,109,304	10,324	473	6,290,137	48,000	426	151	372	7,455,817

ferred by Ralph B. Meany, an agent of the state department of agriculture. The defendant stated he would file an appeal.

KANSAS DEALERS' ACT.

An act regulating dealers in nursery stock and labeling shipments has been introduced in the Kansas legislature by the senate committee on agriculture as senate bill 422, entitled: "An act relating to the regulation of certain dealers in nursery stock and their agents; to nonresident dealers and agents of nursery stock; to reciprocal agreements between the Kansas entomological commission and other states; to labeling of nursery stock for shipment; and to railroads, express companies, and all common carriers receiving nursery stock for shipment."

TENNESSEE FOREST NURSERY.

The entire stock of the forest service nursery south of Jackson, Tenn., has been sold. L. E. McCormick, district forester, announced last month, and orders for more than 300,000 additional trees have been received.

Approximately one and a quarter million trees have been sold since January 1, which is the largest number sold from the nursery during a single planting season. Black locust trees have been most popular this year.

The increased demand for plants, caused by the tree-planting provisions of the agricultural conservation act, will necessitate an increase in the size of the nursery at the next planting time in April, Mr. McCormick said. According to present plans the 5-acre planting tract will be increased to fifteen acres.

BULLETINS RECEIVED.

The monthly bulletin of the Missouri state department of agriculture for December, 1936, volume 34, No. 8, is devoted to the Japanese beetle, "including report of progress in safeguarding Missouri agriculture from this destructive oriental insect pest." Written by J. C. Breshears, commissioner, and J. Carl Dawson, it provides full information as to the habits and control of the beetle, and more particularly its distribution and almost complete elimination in St. Louis and vicinity. The bibliography

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will be helpful to any nurseryman who wishes further data on this pest.

The report of progress for the year ending June 30, 1936, just issued by the Florida agricultural experiment station, at Gainesville, will be of interest to southern growers for the studies in horticulture, plant pathology and entomology undertaken there for the crops of primary importance in the state.

The report of progress for year ending June 30, 1936, issued as bulletin 384 by the Maine agricultural experiment station, Orono, is chiefly interesting to nurserymen for the brief accounts of investigations having to do with the culture of blueberries and the insects which attack them.

CLASSIFIED ADVERTISING

Hemlock, 8 to 12 ft. high. Honey Locust and Oak. Elmgrove Nursery, Leetsville, Mich.

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Osage Orange Hedge Seed (Maclura Aurantiaca, or Bois d'Arc) my specialty. Write for circular. Ray Wickliffe, Seneca, Kan.

My new Seed List has been posted to customers. Copies are still available for those interested. Manager, Llanadell, Silgo, Irish Free State.

American Arbor-Vita. Seedlings, 4 to 8 ins. \$5.00 per 1000. 50 and up at thousand rate. Liberal discounts in lots of 5000 and up. No extra charge for baling or containers. Write for lists containing many items. American Forestry Co., Pembine, Wis.

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120 Etiole de France, 400 Luxembourg.
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1000 Betty Upchurch, 420 C. E. Douglas.
1000 Etiole de Hollande, 120 J. J. L. Mock.
170 Lady Hillingdon, 560 Tailsman.
530 Francis S. Key.

Concord Grape cuttings, \$1.00 per 1000. Berry plants, No. 1, \$1.25 per 100, \$8.00 per 1000. Raspberries, St. Regis (red everbearing), Latham (red), Chief (red), New Logan (blackcap), Quinlin (black), Cumberland (black). Blackberry Iceberg (white). Youngberries, \$1.25 per 100, \$12.00 per 1000. Asparagus Mary Washington, 2-year, \$5.00 per 1000. Redbud (Judas tree), 3 to 4 ft., 10c; 4 to 6 ft., 15c; 6 to 8 ft., 25c. Dogwood (white-flowering), 3 to 4 ft., 15c; 4 to 6 ft., 20c. Sycamore, 4 to 6 ft., 20c; 6 to 8 ft., 30c. 10,000 western-grown Pear seedlings, No. 1, \$15.00 per 1000. 5,000 western-grown Apple seedlings, No. 1, \$14.00 per 1000.

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BID ON NEW YORK FAIR TREES.

The New York World's Fair Corporation opened bids February 24 for about 500 trees of unusually large dimensions, worth in excess of \$100,000. The trees, including American elms of 18-inch trunk diameter and heights of from forty-eight to fifty-five feet, will be planted on the site of the fair at Flushing Meadow, Queens, this spring.

The requisition which attracted twenty-one bidders is the first actual step in a landscaping program formulated by the fair corporation that is to extend over a period of two years and will involve the transplanting of approximately 10,000 trees of all sizes, and the setting out of spring-flowering bulbs and annuals by the hundreds of thousands.

The offerings of maples, white-flowering dogwood, oriental planes, pin oaks and American elms are for trees ranging from six to eighteen inches in trunk diameter and from fifteen to fifty-five feet in height.

Almost every available tree of the requisite unusual size within a radius of 100 miles from the fair site has been catalogued by one or more persons or firms, and has in many instances been photographed or taken up in option.

Prices of trees run all the way from \$200 for a Cornus florida, six to eight inches in caliper, fifteen to twenty feet high, fourteen to eighteen feet in spread and with soil ball of eight to nine feet in diameter, up to \$500 for an Ulmus americana, sixteen to eighteen inches in caliper, forty-eight to fifty-five feet high, thirty-four to forty feet in spread and with soil ball thirteen and one-half to fourteen and one-half feet in diameter. The bids covered not only the cost of the trees, but also the expense of removing and transplanting.

Since contractors were allowed to bid on one or more trees under any one or more specified items, no statements could be immediately issued at fair headquarters as to the lowest bidders. It will be a matter of days before comparison of the bids can be completed. No contracts will be signed by the fair corporation until its own tree experts have inspected the trees offered.

Of the twenty-one firms submitting bids, only the Plainfield Nursery, Inc., and the Outpost Nurseries, Inc., offered trees covering the entire listing. The Lewis & Valentine Tree Moving Co. submitted three separate bids covering almost the entire listing. Among other firms bidding were A. Gude & Sons, Inc.; Nicholas Vasileff; Bronxville Nurseries, Inc.; Syossett Nurseries; Del Balso Construction Corp.; North Shore Landscape Co.; Yonkers Nurseries, Inc.; Faulk & Co.; Livingston Nurseries; Davey Tree Expert Co.; W. C. McCollum & Son, Inc.; M. C. Beam, Inc.; Hicks Nurseries, Inc.; Specimen Nurseries, Inc.; William Hawkey, and J. J. Levison.

This spring's planting of large trees will be confined to section 1 of the 1216½-acre exposition site, or that section bounded by the Long Island railroad, 111th street, Horace Harding boulevard and the Flushing river, embracing avenues and plazas adjacent to the Theme Center and radiating therefrom. All trees set along avenues and plazas of the exposition will in turn be along the streets and esplanades of the permanent city park that will be developed after the fair closes.

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INDEX TO ADVERTISERS

Aeroil Burner Co.	25	Locke Poteet Nursery	19
Alta Vista Nurseries	16	Lovett, Lester C.	17
American Color & Chemical Co.	25	Maloney Bros. Nursery Co.	21
American Forestry Co.	24	Martin Co., Joseph F.	22
Andrews Nursery	18	Mathews Eggert Nursery	17
Atkins & Durbrow	25	McGill & Son, A.	17
Barteldes Seed Co.	15	McHutchison & Co.	23
B. & B. Irrigating System	24	Mehaffey, H. A.	21
Benton County Nursery Co.	24	Milton Nursery Co.	16-17
Bobbink & Atkins	21	Moore's Berry Ranch	18
Boyd Nursery Co.	17	Mount Arbor Nurseries	15
Brimfield Gardens Nursery	22	National Bundle Tye Co.	23
Burr & Co., C. R.	19	Pacific Coast Nursery	17
Canterbury	15	Pearce, Rex, D.	17
Carpenter & Co., Geo. B.	25	Peterson & Dering, Inc.	19
Cedarcroft Gardens	21	Pitts Studios	26
Chase Bag Co.	27	Pitzonka's Pansy Farm	21
Chase Co., Benjamin	26	Princeton Nurseries	19
Cloverset Flower Farm	27	Process Color Printing Co.	26
Cole Nursery Co.	14	Revolute Corp.	28
Cottage Gardens	22	Robbins, E. C.	21
Craig, Wm. N.	24	Rust Mfg. Co., John	25
Curtis Nursery	15	Scarff's Nurseries	18
Dixie Rose Nursery	19	Schifferli & Son Nurseries, F. E.	18
Doe Valley Farms, Inc.	16	Shenandoah Nurseries	12
Eden Nurseries	21	Sherman Nursery Co.	15
Elmgrove Nursery	24	Sherwood Nursery Co.	17
Evergreen Nursery Co.	15	Skinner & Co., C. W.	25
Fairview Evergreen Nursery	17	Shunk Mfg. Co.	27
Felins	23	Smith's Gardens	17
Forest Nursery Co.	13	Spelman Co., J. R.	20
Foster Nursery Co.	18	Standard Fence Co.	28
Garden Shop, Inc.	27	Storrs & Harrison Co.	13
Grand Mere Nurseries	18	S-W Supply Co.	25
Harmon Nursery	21	Tobacco By-Products & Chem. Corp.	26
Herbst Bros.	22	Tolleson Nurseries	15
Hill Nursery Co., D.	15	Townsend & Sons Nurseries, E. W.	15-18-20
Hill's Plant Farms	18	Verhalen Nursery Co.	19
Hilltop Orchards & Nurseries	18	Von Canon, Mrs. J. H.	20
Hobbs & Sons, C. M.	19	Walnut Lawn Farm	22
Hogansville Nurseries	21	Washington Nurseries	17
Home Nursery Co.	16	Waynesboro Nurseries, Inc.	20
Houston Blueberry Nursery	18	Westminster Nursery Co.	21
Howard-Hickory Co.	21	White, Inc., Jos. J.	20
Jackson & Perkins Co.	19	WhiteShowers, Inc.	25
Jensen's Nursery	21	Wickliffe, Ray	24
Jewell Nursery Co.	15	Williams Nurseries, Charles H.	16
Kingsville Nurseries, Inc.	17	Willis Nursery Co.	15
Krieger's Wholesale Nursery	20	Willowbend Nursery	21
Lang Rose Nursery	19	Wilmore Nurseries, W. W.	15
Le-Mac Nurseries	17	Wilson & Co., Inc., C. E.	19
Leonard & Son, A. M.	22	Wisconsin Moss Co.	25
Lissadell	24		

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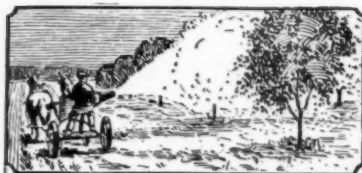
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318 W. 47th St., Kansas City, Mo.

Manufacturers of Automotive Tree Movers



CHASE SAXOLIN DUPLIX CRINKLED WATERPROOF KRAFT Spiral Wrap

For newly planted trees, Spiral Wrap in narrow width rolls helps your stock get off to a healthy growth.

Serves as a protection against sun scald and insect attack.

Provides security against the elements, severe frost and cold and the ravages of rabbits and other rodents.

Adjusts itself automatically to the contour of the tree with velvety wrapping smoothness. Prevents loss of moisture. Surface sealed with sufficient porosity to admit air.

Spiral Wrap gives complete coverage, perfect balance and flexibility . . . exerts an even pressure and permits expansion with the growth.

For general nursery use, CD-375 Saxolin Duplex Crinkled Waterproof Kraft is supplied in convenient size rolls of 200 yards, all standard widths . . . 36", 40", 48", 54" and 60" or cut into sheets of desired size, which saves time and eliminates waste.

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Photographs above show comparative effects on crown gall bacteria. Large test disks contain bacteria; two white dots are tapes; dark area around one tape is region freed from germs.

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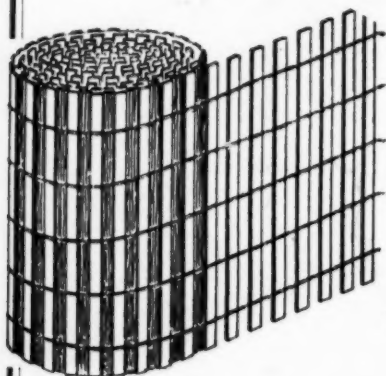
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"STANDARD" Woven Lath Shading as used by U. S. Forest Service for evergreen seedlings at Keosauqua, Iowa, nursery.